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JANUARY 1984
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Hawaii Medical Journal

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CONTENTS

Over the Editor's Desk 3
Harry L. Arnold, Jr., MD.

Pediatric Heart Surgery at the Queen's Medical Center 7
Ricardo J. Moreno-Cabral, M.D.

Clinical Pathologist's Easy Chair—Immunopathology of Liver Diseases 10
Francis H. Fukunaga, M.D.

HMA Auxiliary 10
Dorothy Shepard

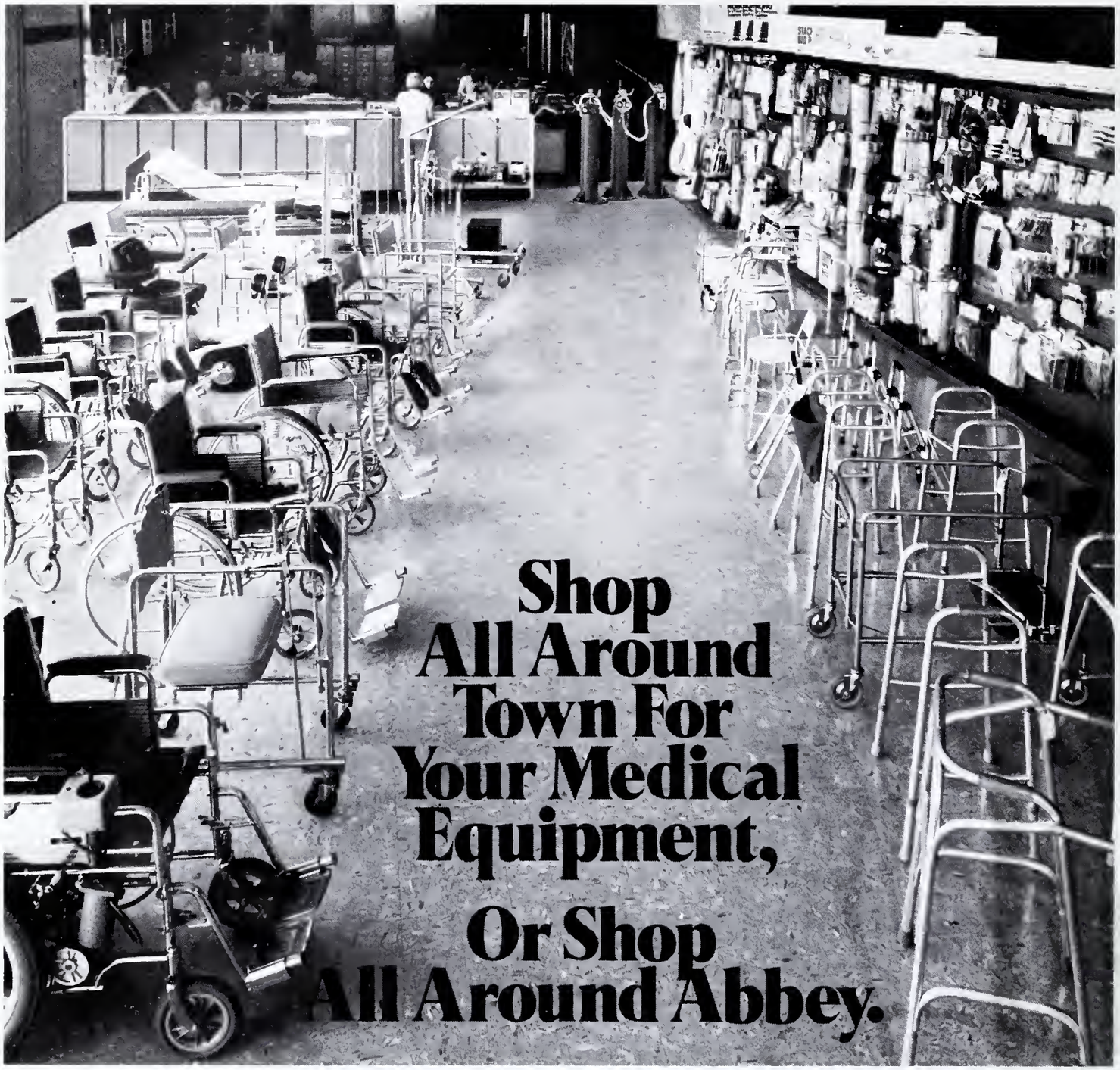
Parasitic Infestations in Southeast Asian Refugees 12
Kenyon J. Kramer, M.S.; Pamela Ferguson, B.S.; Wayne R. McKinny, M.D.; and Wasim A. Siddiqui, Ph.D.

News and Notes 16
Henry N. Yokoyama, M.D.

Continuing Medical Education 24

Index to Hawaii Medical Journal, Vol. 42, 1983 25

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Harry L. Arnold Jr., M.D.

Ask your GE dealer about his new pneumatic mattress, made of stain-resistant nylon taffeta which is washable and can be autoclaved, for the top of an X-ray imaging table. Imagine lying on an X-ray table and being even reasonably comfortable! Their trade name for it is the RAD-PAD.

* * *

Pfizer Pharmaceuticals offers a free 62-page booklet called "Learning to Live with Osteoarthritis." If you didn't get one, and have such patients, ask for it. Booklets on hypertension and diabetes are in preparation.

* * *

Would an infra-red thermometer for instant digital readout of skin temperature (in one second, actually), without skin contact, be useful to you? Linear Laboratories can supply you with one; write them at 445 S. San Antonio Road, Los Altos, Calif. 94022, or telephone (415) 941-4996.

* * *

The August *FDA Drug Bulletin* had some interesting items in it. One was a definition of AIDS: either a life-threatening opportunistic infection, such as *Pneumocystis carinii* infection, or Kaposi's sarcoma, in a patient under 60 who has no underlying immunosuppressive disease and has not been immunosuppressed deliberately.

- A second was the recommendation that all Dalkon Shield IUDs be removed.
- A third was that current supplies of Bendectin, for nausea of pregnancy, have not been withdrawn; Merrell-Dow has simply voluntarily stopped manufacturing and distributing it. Two studies showed, or suggested, respectively, a 4-fold and a 2.7-fold increase in pyloric stenosis among infants whose mothers received it during the first trimester; a third and much larger study showed no connection. A meeting was planned in which alternatives were to be explored.
- A fourth was that ketoconazole therapy carries a risk of hepatic necrosis if it is prolonged or if it is given patients with previous liver disease, and careful monitoring of the hepatic profile is mandatory under such circumstances.
- A fifth was that moxalactam can cause serious bleeding problems in 3 ways. So can all the beta-lactam antibiotics.
- A sixth was that in the past 16 months, 3 children, aged 3, 6, and 11 years, have been crushed to death during the accidental lowering of electrically-powered hospital beds.
- Finally, 3 recent articles on BCG vaccine for bladder cancer have cited a 10-fold higher dose than was actually used: $6x10^9$ organisms. The correct dose is $6x10^8$ viable organisms. The larger dose could cause serious reactions or even be fatal. FDA has not approved of this use, but it is being tried.

* * *

A unique line of central venous catheter systems is announced by the Hemed Catheter Division of Gish Biomedical; they offer trays and kits with catheters and all accessories. Write them at 2350 S. Pullman Ave., Santa Ana, Calif. 92705, for their brochure.

* * *

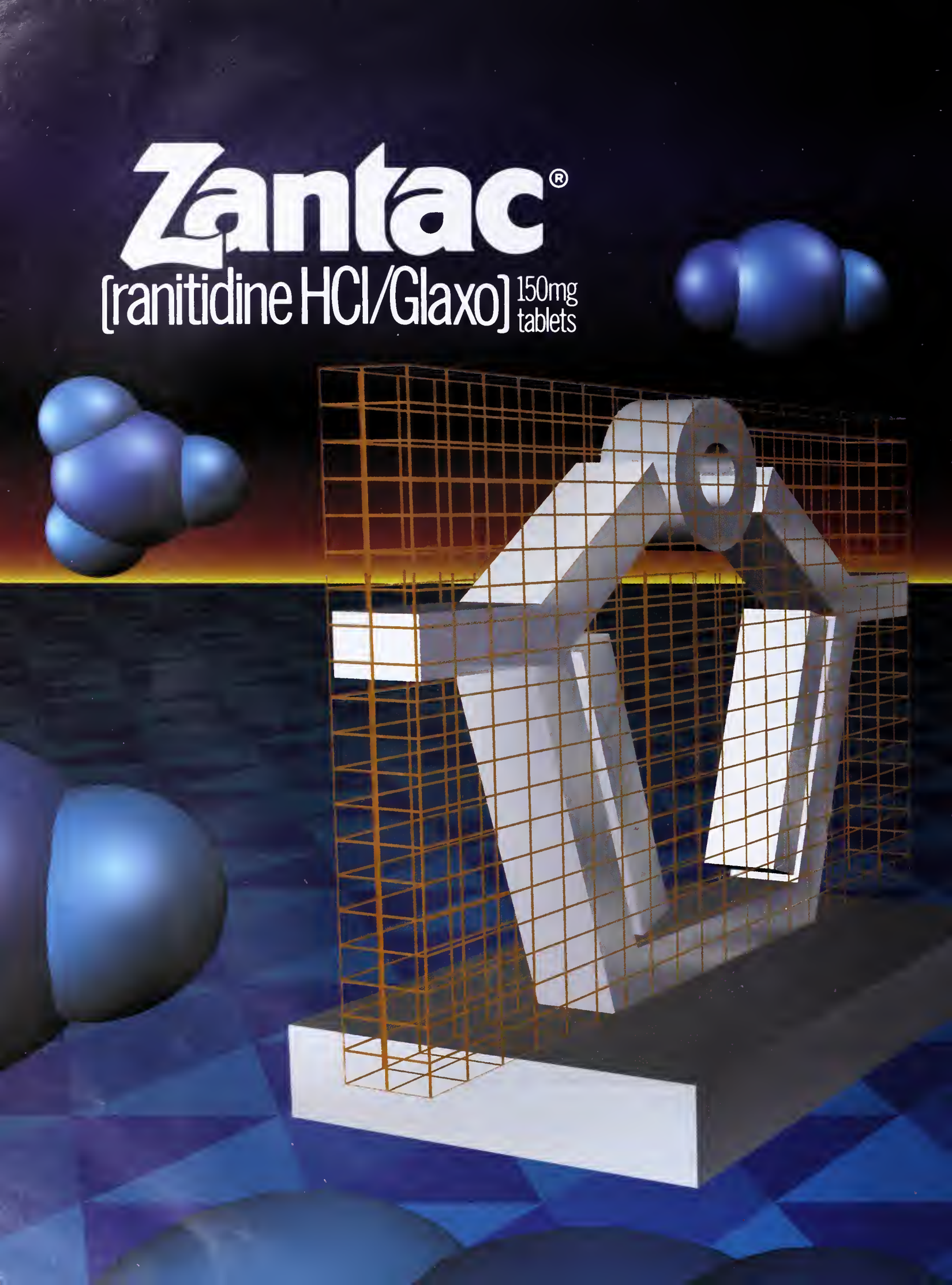
Erratum

In the December 1983 issue page 414 article, "Variation in Infant Mortality Rates Among Census Tracts in Hawaii," the following legend was inadvertently omitted on the map of the Islands of Hawaii:

Figure. Variation in infant mortality rates among census tracts. High risk areas are darkly shaded. Low risk areas are unshaded.

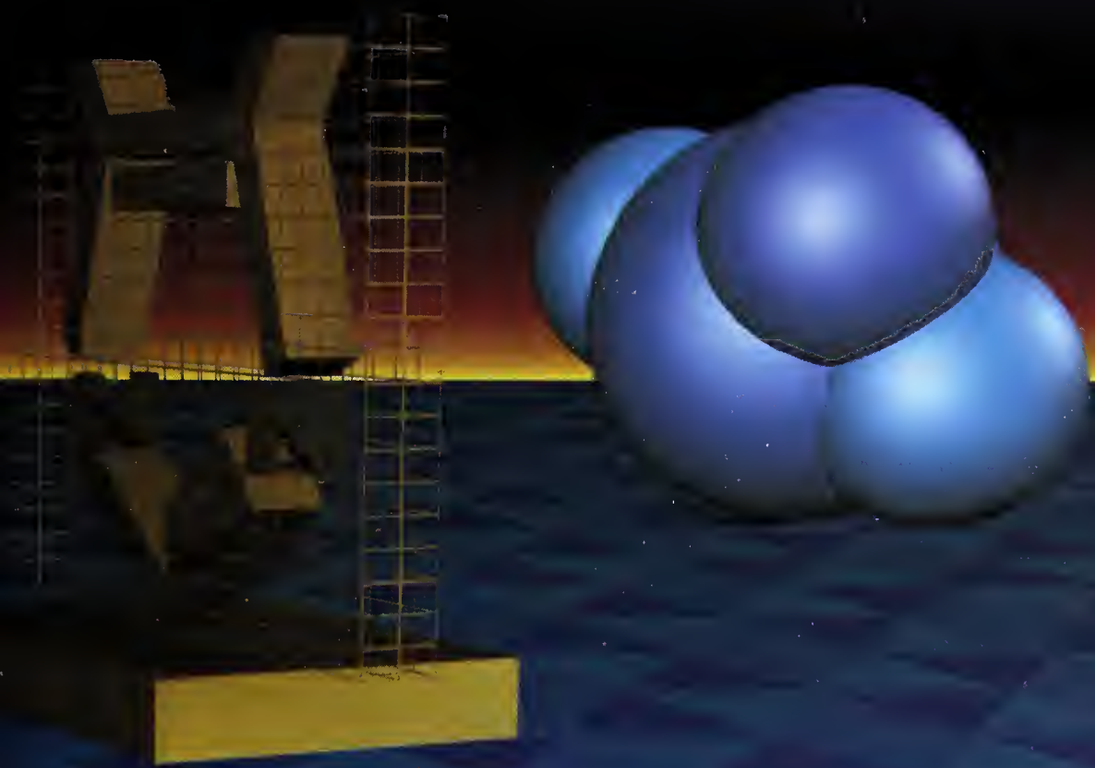
Zantac®

[ranitidine HCl/Glaxo] 150mg tablets



Glaxo ROCHE

Unsurpassed activity in gastric acid inhibition: for active duodenal ulcer and pathological hypersecretory conditions*



Zantac is a new chemical compound

- ☐ Not a histamine-related imidazole—a furan compound.

Zantac offers important patient benefits

- ☐ Single-dose action for up to 12 hours—b.i.d. administration. Four weeks of therapy for most patients with active duodenal ulcer.
- ☐ No interaction with warfarin, theophylline and diazepam.
- ☐ Effective and well tolerated even in pathological hypersecretory conditions.
- ☐ For adverse reactions see complete prescribing information.

*It is not known exactly how much inhibition of gastric acid secretion is required to heal ulcers.

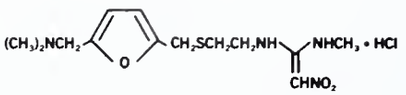
Please see following page for complete prescribing information.

Unsurpassed activity in gastric acid inhibition

Zantac®

[ranitidine HCl/Glaxo] 150mg tablets

DESCRIPTION: The active ingredient in ZANTAC® Tablets, ranitidine hydrochloride, is a histamine H_2 receptor antagonist. Chemically it is N[2-[[[5-[(dimethylamino) methyl]-2-furanyl]methyl]thio]ethyl]-N'-methyl-2-nitro-1, 1-ethenediamine, hydrochloride. It has the following structure



The empirical formula is $C_{13}H_{22}N_4O_3S \cdot HCl$, representing a molecular weight of 350.87.

Ranitidine hydrochloride is a white to pale yellow granular substance which is soluble in water. It has a slightly bitter taste and sulphur-like odor.

Each tablet for oral administration contains 168 mg of ranitidine hydrochloride, equivalent to 150 mg ranitidine.

CLINICAL PHARMACOLOGY: ZANTAC® (rantidine hydrochloride) is a competitive, reversible inhibitor of the action of histamine at the histamine H_2 receptors, including receptors on the gastric cells.

ZANTAC does not lower serum Ca^{++} in hypercalcemic states.

ZANTAC is not an anticholinergic agent.

Antisecretory Activity:

1. Effects on acid secretion:

ZANTAC inhibits both daytime and nocturnal basal gastric acid secretion as well as gastric acid secretion stimulated by food, histamine and pentagastrin, as shown in the table below.

Effect of Oral ZANTAC® on Gastric Acid Secretion

	Time After Dose, hrs.	% Inhibition of Gastric Acid Output by Dose, mg			
		75-80	100	150	200
Basal	Up to 4		99	95	
Nocturnal	Up to 13	95	96	92	
Betazole	Up to 3		97	99	
Pentagastrin	Up to 5	58	72	72	80
Meal	Up to 3		73	79	95

It appears that basal, nocturnal and betazole stimulated secretion are most sensitive to inhibition by ZANTAC, responding almost completely to doses of 100 mg or less, while pentagastrin and food stimulated secretion are more difficult to suppress.

2. Effects on other gastrointestinal secretions:

Pepsin: Oral ZANTAC 150 mg did not affect pepsin secretion. Total pepsin output was reduced in proportion to the decrease in volume of gastric juice.

Intrinsic factor: Oral ZANTAC 150 mg had no significant effect on pentagastrin-stimulated intrinsic factor secretion.

Serum gastrin: ZANTAC has little or no effect on fasting or postprandial serum gastrin.

3. Other pharmacological actions:

a. Hepatic blood flow reduced 20%. Significance unknown.

b. Gastric bacterial flora—increase in nitrate-reducing organisms, significance not known.

c. Prolactin—no effect (IV bolus) or less increase than cimetidine.

d. Other pituitary hormones—no effect on serum gonadotropins, TSH, GH. Possible impairment of vasopressin release.

e. No change in cortisol or aldosterone.

f. No effect on count, motility or morphology of sperm, androgen level, estradiol, testosterone.

g. No effect on penile erection, sexual arousal or ejaculation.

4. Pharmacokinetics:

ZANTAC is 50% absorbed after oral administration compared to an IV injection with mean peak levels of 440-545 ng/ml occurring at 2-3 hours after a 150 mg dose. The elimination half-life is 2.5-3 hours.

Absorption of ZANTAC is not significantly impaired by concomitant administration of food or antacids. Propantheline slightly delays and increases peak blood levels of ZANTAC, probably by delaying gastric emptying and transit time.

Serum concentrations necessary to inhibit 50% of stimulated gastric acid secretion are estimated to be 36-94 ng/ml. Following a single oral dose of 150 mg, serum concentrations of ZANTAC are in this range up to 12 hours. However, blood levels bear no consistent relationship to dose or degree of acid inhibition.

The principal route of excretion is the urine, with approximately 30% of the orally administered dose collected in the urine as unchanged drug in 24 hours. Renal clearance is about 410 ml/min, indicating active tubular excretion.

In man, the N-oxide is the principal metabolite in the urine; however this amounts to less than 4% of the dose. Other metabolites are the S-oxide (1%) and the desmethyl ranitidine (1%). The remainder of the administered dose is found in the stool.

The volume of distribution is about 1.4 L/kg. Serum protein binding averages 15%.

Clinical Trials:

Duodenal Ulcer

In a multicenter, double-blind controlled U.S. study of endoscopically diagnosed duodenal ulcers, earlier healing was seen in the ZANTAC®-treated patients as shown below:

	ZANTAC® +		Placebo +	
	Number Entered	Healed/ Evaluable	Number Entered	Healed/ Evaluable
Outpatients				
Week 2	149	54/147 (37%)*	146	29/137 (21%)
Week 4		109/148 (74%)**		68/137 (50%)

*p = 0.0014
**p = 0.0001
+ All patients were permitted prn antacids for relief of pain.

In these studies, ZANTAC-treated patients reported a reduction in both daytime and nocturnal pain, and they also consumed less antacid than the placebo-treated patients.

	Median number of daily doses of antacid	
	Ulcer Healed	Ulcer Not Healed
ZANTAC®	0.06	0.71
Placebo	0.71	1.43

During the clinical trials, some not healed at 4 weeks were rerandomized to either placebo or ranitidine, with the results after 4 weeks shown below.

Not healed on:	Retreated with:	Healed:
Placebo	Placebo	10/21
Placebo	Ranitidine	15/24
Ranitidine	Ranitidine	5/8
Ranitidine	Placebo	8/19

It can be seen that there are trends weakly favoring ranitidine but none of the differences are statistically significant.

Studies have been limited to short-term treatment of acute duodenal ulcer. Patients whose ulcers healed during therapy had recurrences of ulcers at the usual rates. There have been no systematic studies to evaluate whether continued treatment with ZANTAC (ranitidine hydrochloride) alters recurrence rates.

Pathological Hypersecretory Conditions
(such as Zollinger-Ellison Syndrome)

ZANTAC inhibits gastric acid secretion and reduces occurrence of diarrhea, anorexia, and pain in patients with pathological hypersecretion associated with Zollinger-Ellison Syndrome, systemic mastocytosis and other pathological hypersecretory conditions (e.g. post-operative, "short gut" syndrome, idiopathic). Use of ZANTAC was followed by healing of ulcers in 8 of 19 (42%) patients who were intractable to previous therapy.

INDICATIONS AND USAGE:

ZANTAC® (ranitidine hydrochloride) is indicated in:

1. Short-term treatment of active duodenal ulcer. Most patients heal within 4 weeks and the usefulness of further treatment has not been demonstrated. Studies available to date have not assessed the safety of ranitidine in uncomplicated duodenal ulcer for periods of more than 8 weeks.
2. The treatment of pathological hypersecretory conditions (e.g., Zollinger-Ellison Syndrome and systemic mastocytosis).

In active duodenal ulcer and hypersecretory states, concomitant antacids should be given as needed for relief of pain.

CONTRAINDICATIONS: There are no known contraindications to the use of ZANTAC® (ranitidine hydrochloride).

PRECAUTIONS:

General

1. Symptomatic response to ZANTAC® therapy does not preclude the presence of gastric malignancy.
2. Since ZANTAC is excreted primarily by the kidney, dosage should be adjusted in patients with impaired renal function (see Dosage and Administration). Caution should be observed in patients with hepatic dysfunction; ZANTAC is metabolized in the liver and, at present, the effects of hepatic disease on the metabolism of ZANTAC is unknown.

Laboratory Tests

False positive tests for urine protein with Multistix® may occur during ZANTAC therapy and therefore testing with sulphosalicylic acid is recommended.

Drug Interaction

Potentiation of warfarin-type anticoagulants has not been observed with concomitant ZANTAC administration. Likewise no clinically significant drug interactions have been observed between ZANTAC and theophylline or ZANTAC and diazepam. Drug interactions of this type are not expected since ranitidine does not significantly interact with the cytochrome P450 linked drug metabolizing enzyme system.

Carcinogenesis, mutagenesis and impairment of fertility

There was no indication of tumorigenic or carcinogenic effects in lifespan studies in mice and rats at doses up to 2000 mg/kg/day.

Ranitidine was not mutagenic in standard bacterial tests *(Salmonella, E. Coli)* for mutagenicity at concentrations up to the maximum recommended for these assays.

In a dominant lethal assay a single oral dose of 1000 mg/kg to male rats was without effect on the outcome of 2 matings per week for the next 9 weeks.

Usage in Pregnancy

Pregnancy Category B. Reproduction studies have been performed in rats and rabits at doses up to 160 times the human dose and have revealed no evidence of impaired fertility or harm to the fetus due to ZANTAC® (ranitidine hydrochloride). There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers

ZANTAC (ranitidine hydrochloride) is secreted in human milk. Caution should be exercised when ZANTAC is administered to a nursing mother.

Pediatric Use

Safety and effectiveness in children have not been established.

Use in Elderly Patients

Ulcer healing rates in elderly patients (65-82 years) were no different from those in younger age groups. The incidence rates for adverse events and laboratory abnormalities were also not different from those seen in other age groups.

ADVERSE REACTIONS

Headache has been found to be more frequent in ZANTAC®-treated patients (3%) than placebo-treated patients (2%). The following symptoms have been reported in ZANTAC-treated patients with a frequency of 1% or less: malaise, dizziness, constipation, nausea, abdominal pain and rash.

Decreases in white blood cell and platelet count have occurred in a few patients. These did not lead to cessation of treatment and were clinically insignificant. There have been no reported cases of agranulocytosis or aplastic anemia. Some small increases in serum creatinine have been noted in patients receiving ZANTAC (ranitidine hydrochloride).

Some increases (up to 5 times the upper limit of normal in one case) in serum transaminases and gamma-glutamyl transpeptidase have been reported. Rare cases of hepatitis have been reported.

In normal volunteers, SGPT values were increased to at least twice the pre-treatment levels in 6 of 12 subjects receiving 100 mg q.i.d. IV for 7 days, and in 4 of 24 subjects receiving 50 mg q.i.d. IV for 5 days. This dose-related effect of the IV formulation suggests that ZANTAC is potentially hepatotoxic. In placebo controlled studies of the oral formulation involving 2437 patients (1358 receiving ranitidine and 1079 patients receiving placebo), with most patients treated 4-8 weeks, there was no difference in incidence of SGOT-SGPT elevations between the 2 groups.

No clinically significant interference with endocrine or gonadal function have been reported.

OVERDOSAGE: There is no experience to date with deliberate overdosage. The usual measures to remove unabsorbed material from the gastrointestinal tract, clinical monitoring and supportive therapy should be employed.

Studies in animals receiving doses of ZANTAC® in excess of 225 mg/kg/d have shown muscular tremors, vomiting, and rapid respiration. Single oral doses of 1000 mg/kg in mice and rats were not lethal. Intravenous LD_{50} values in rat and mouse were 83 mg/kg and 77 mg/kg, respectively.

DOSAGE AND ADMINISTRATION:

Duodenal Ulcer

The current recommended adult oral dosage of ZANTAC® for duodenal ulcer is 150 mg twice daily, the only dose shown to speed healing of duodenal ulcer in U.S. clinical trials. Smaller doses have been shown to be equally effective in inhibiting gastric acid secretion in U.S. studies, and several foreign trials have shown that 100 mg b.i.d. is as effective as the 150 mg dose.

Antacids given concomitantly and as needed for relief of pain do not interfere with the absorption of ZANTAC.

Since 37% of patients can be expected to show complete healing at the end of two weeks, endoscopy at that time may spare many patients an additional period of treatment.

Pathological Hypersecretory Conditions
(such as Zollinger-Ellison Syndrome)

Recommended adult oral dosage: 150 mg twice a day. In some patients it may be necessary to administer ZANTAC 150 mg doses more frequently. Doses should be adjusted to individual patient needs, and should continue as long as clinically indicated. Doses up to 6 g/day have been employed in patients with severe disease.

Dosage adjustment for patients with impaired renal function.

On the basis of experience with a group of subjects with severely impaired renal function treated with ZANTAC, the recommended dose in patients with a creatinine clearance less than 50 ml/min is 150 mg every 24 hours. Should the patient's condition require, the frequency of dosing may be increased to every 12 hours or even further with caution. Hemodialysis reduces the level of circulating ranitidine. Ideally, the dosage schedule should be adjusted so that the timing of a scheduled dose coincides with the end of hemodialysis.

HOW SUPPLIED

ZANTAC® Tablets (ranitidine hydrochloride equivalent to 150 mg ranitidine) are white tablets embossed with "ZANTAC 150" on one side and "Glaxo" on the other. They are available in bottles of 30 tablets (NDC 0173-0344-40), 60 tablets (NDC 0173-0344-42), and unit dose packs of 100 tablets (NDC 0173-0344-47).

Store at controlled room temperature in a dry place. Protect from light. Replace cap securely after each opening. Manufactured for Glaxo Inc., Research Triangle Park, NC 27709 by Glaxo Operations UK Ltd, Greenford, England.

Issued Sept. 1983

Glaxo

Glaxo Inc., Research Triangle Park, NC 27709

Pediatric Heart Surgery at the Queen's Medical Center

Ricardo J. Moreno-Cabral, M.D., Honolulu

• *Most cardiac operations in Hawaii currently are performed at the Queen's Medical Center, a 474-bed acute-care facility. Open-heart surgery for congenital heart disease has been performed at this institution since 1959. This is the only center properly equipped for these highly specialized procedures in the Hawaiian Islands, and over the years Queen's has served patients from Hawaii and the Pacific Trust territories.*

This report summarizes the experience of one surgical service at Queen's during 1982.

Methods

Patients: Between January 1 and December 31, 1982, 41 children under 12 years of age underwent cardiovascular procedures with the aid of cardiopulmonary bypass at the Queen's Medical Center (QMC). Another 14 patients underwent a variety of operations without cardiopulmonary bypass, including closure of patent ductus arteriosus, creation of systemic pulmonary shunts, repair of coarctation, and atrial septectomy.

A total of 34 of these patients, operated upon by our team, constitute the basis of this report. Age ranged from 12 hours to 11 years, with 14 girls and 20 boys. The diagnoses and operations are shown in Tables 1, 2, and 3.

Simple anomalies: The majority of patients had simple malformations such as patent ductus arteriosus, atrial and ventricular septal defects. A 9-year-old patient with recurrent coarctation and hypoplastic distal aortic arch underwent bypass with a 14 mm dacron graft from ascending to descending thoracic aorta. An 18-month-old boy with patent ductus and ventricular septal defect underwent staged ductus closure, followed by open-heart closure of the ventricular septal defect 3 weeks later. Palliative operations were not used in this group of patients.

Complex anomalies: A total of 13 patients had a variety of complex congenital malformations (Table 3). The most common was tetralogy of Fallot.

Included in this group is a patient, with aortic coarctation, patent ductus arteriosus, atrial and ventricular septal defects, who underwent closure of patent ductus and repair of coarctation with a subclavian artery patch at 2 weeks of age. This was followed 6 days later by ASD and VSD closure under cardiopulmonary bypass.

One patient, with common atrium *(cor triloculare biventriculare)*, partial atrioventricular canal, unroofed coronary sinus and partial anomalous pulmonary venous connection, underwent total correction by the creating of a new interatrial septum with a pericardial patch, repairing of the cleft mitral valve, and closing of the persistent left superior vena cava, leaving the unroofed coronary sinus emptying into the newly created left atrium.

A patient with *cor triatriatum* and anomalous drainage of the right pulmonary veins into the right atrium was corrected by the excising of the obstructive membrane in the left atrium and connecting of the anomalous veins to the left atrium by means of a pericardial baffle connected to the atrial septal defect.

There were 2 patients with total anomalous pulmonary venous connection in this group.

Palliative operations were carried out in 4 patients. One patient with pulmonary atresia and intact ventricular septum underwent a Blalock-Taussig shunt. A patient with transposition and patent ductus received the Blalock-Hanlon operation; one patient with tetralogy of Fallot and one with tricuspid atresia had the creation of Waterston shunts.

A unique patient, not listed in the tables and without congenital heart disease, required open-heart surgery at 6 days of age. This patient presented with cyanosis at birth and findings suggestive of pulmonary atresia with intact ventricular septum. He was critically ill with renal and cardiorespiratory failure. At operation, an embolus was found completely obstructing a normal pulmonary valve, the only outflow to the right ventricle being retrograde through the tricuspid valve and a patent foramen ovale. He underwent pulmonary embolectomy under cardiopulmonary bypass.[1]

Surgical techniques: Standard surgical techniques were utilized for closure of patent ductus arteriosus, correction of coarctation, and creation of systemic pulmonary shunts.

Most patients underwent open-heart procedures, using low-flow, low-pressure cardiopulmonary bypass and moderate hypothermia as applied at Stanford University (75 to 100 cc per kilo per minute at 28 to 30 degrees C).[2] Deep hypothermia and cardiocirculatory arrest was used in two patients with simple anomalies: a 4.5-month-old child with ASD and VSD and a 4-month-old child with VSD and patent foramen ovale. This technique also was utilized for total correction of more complex anomalies in 3 additional patients: one with tetralogy of Fallot and 2 with anomalous pulmonary venous connection. The duration of cardiocirculatory arrest under deep hypothermia and the operative procedures are listed in Table 4. Our current technique consists of cooling to 16 to 20 degrees C, using conventional cardiopulmonary bypass. Once this temperature is reached, the venous return is emptied into the oxygenator reservoir, the venous cannula removed if necessary, and intracardiac repair carried out. This

Continued on page 8

TABLE 1. Pediatric Cardiac Surgery at QMC 1982

Congenital	
Simple anomalies	22
Complex anomalies	11
Acquired	1
TOTAL	34

TABLE 2. Pediatric Cardiac Surgery at QMC 1982 Simple anomalies

Diagnosis	No.	Mortality
PDA	5	0
ASD	5	0
VSD	7	0
ASD + VSD	1	0
ASD + PS	1	0
Coarctation*	1	0
TOTAL	22	0

Legend: PDA (patent ductus arteriosus)
ASD (atrial septal defect)
VSD (ventricular septal defect)
PS (pulmonary valve stenosis)
* recurrent

Accepted for publication August 1983.

Continued from page 7

is followed by reinsertion of the venous cannula and rewarming with the heart/lung machine and thermal blanket.

Results

Simple anomalies: There was no hospital or late mortality and no significant morbidity in this group.

Complex anomalies: There was no mortality on patients who underwent total correction for tetralogy of Fallot. The same was true for patients with complex intra-atrial malformations such as common atrium and cor triatriatum with anomalous venous return. The only operative mortality for total correction occurred in 2 patients with total anomalous pulmonary venous connection who underwent surgery at 16 hours and 4 days of age. The first patient had truly uncorrectable anatomy, with hypoplastic pulmonary veins forming a K pattern behind the atria. In addition, this patient had severe congenital pulmonary emphysema. The second patient died of renal failure 10 hours following surgery. Both patients required deep hypothermia and circulatory arrest during 21 and 15 minutes, respectively.

The patient who underwent pulmonary embolectomy died 30 hours post-operatively of persistent renal and cardiorespiratory failure. Postmortem exam revealed residual distal pulmonary emboli and a thrombus in the ductus venosus, suggesting the umbilical cord as a source of the embolus during a complicated delivery.

Palliative operations: Blalock-Hanlon atrial septectomy was carried out in one patient with transposition at 1 month of age. One patient who underwent a Waterston shunt for tetralogy of Fallot still is awaiting definitive correction. Finally, 2 patients with uncorrectable anatomy underwent shunting procedures: one with tricuspid atresia expired shortly after creation of a Waterston shunt; the other patient with pulmonary atresia and intact ventricular septum, atrial septal defect, and hypoplastic right ventricle had successful creation of Blalock-Taussig shunt at 8 days of age.

Late results: Two patients who underwent palliative procedures during 1982 underwent more definitive operations in 1983. The patient with transposition, who had Blalock-Hanlon atrial septectomy, underwent correction with Mustard procedure successfully at 17 months of age. The patient with pulmonary atresia, intact ventricular septum, and hypoplastic right ventricle died following an open pulmonary valvotomy and patch enlargement of the right ventricular outflow. This patient had uncorrectable anatomy, with a minuscule right ventricular cavity, tricuspid valve stenosis, and multiple fistulae communicating the right ventricular cavity with the left anterior descending coronary artery.

One patient with pentalogy of Fallot, undergoing total correction at 8 months of age, required a second operation 10 months later for a small residual ventricular septal defect and right ventricular outflow aneurysm. Recovery following this second operation was uneventful. All remaining patients were doing well at the time of this writing.

TABLE 3. Pediatric Cardiac Surgery at QMC 1982
Complex anomalies

Diagnosis	No.	Age	Operation	Mortality
Tetralogy of Fallot	4	2 mos*-10 yrs	Total correction	0
Coarctation, PDA, ASD, VSD	1	3-4 weeks	Total correction	0
Common Atrium, Partial AV Canal, unroofed coronary sinus, persistent l. vena cava	1	4 yrs	Total correction	0
Cor triatriatum, ASD, total right anomalous pulmonary venous connection	1	4 mos	Total correction	0
TAPVC (supracardiac)	1	4 days*	Total correction	+
TAPVC, hypoplastic pulmonary** veins, pulmonary emphysema	1	16 hrs*	Pulmonary vein L. atrial anastomosis	+
TOTAL	9			2

Legend: PDA (patent ductus arterious)
ASD (atrial septal defect)
VSD (ventricular septal defect)
AV (atrioventricular)
TAPVC (total anomalous pulmonary venous connection)
* deep hypothermia
** uncorrectable

TABLE 4. Deep Hypothermia and Circulatory Arrest

Diagnosis	Age	Temp.	Arrest Time
VSD PFO	4 mo.	20°C	20'
VSD ASD	4 mo.	20°C	30'
T. FALLOT	2 mo.	20°C	31'
TAPVC	4 days	20°C	15'
TAPVC	16 hrs.	17°C	21'

Legend: VSD (ventricular septal defect)
PFO (patent foramen ovale)
ASD (atrial septal defect)
TAPVC (total anomalous pulmonary venous connection)

Comment

Open-heart surgery is a relatively new discipline. The first operation for congenital heart disease in Hawaii using the heart/lung machine was performed at the Queen's Hospital by Scott Brainard on November 2, 1959.[1] The patient was a 42-year-old woman with an atrial septal defect and pulmonary hypertension. She is still alive, leading a normal life in Hilo. Doctors Carl Mason and Albert Chun were Dr. Brainard's assistants. The heart/lung machine was operated by a Dr. Guevara, another chest surgeon.

This present modest one-year series, 23 years after the first operation at Queen's, is representative of the most common congenital cardiovascular anomalies seen every year.

Our results indicate safety of intracardiac surgery for children with common anomalies at this institution. Good results also were obtained in patients with more complex malformations. Only one of our patients with complex but correctable malformations died followed open-heart surgery at 4 days of age (Table 5).

Most of these patients underwent cardiac surgery using low-flow, low-pressure cardiopulmonary bypass and moderate systemic hypothermia, as applied at Stanford University. When exposure was difficult, the systemic temperature was further lowered to 26 or 24 degrees C and the perfusion flow simply decreased to enhance exposure during the most deli-

Continued on page 10


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(Continued from page 8)

cate part of the operation. This combined method of "trickle bypass" for the critical part of the operation and low-flow, low-pressure bypass for rewarming and completion of the surgical procedure has allowed safe surgical intervention for most cardiac malformations.

A few patients required deep hypothermia and brief periods of cardiocirculatory arrest. We have reserved this technique for those patients under 8 kilograms of weight with complex anomalies, in whom exposure is hampered by the cannulae and venous return. The arrest interval is limited to 30 minutes at a core temperature of 16 to 20 degrees C.

Pediatric cardiac surgery can only be performed safely at properly equipped centers with active open-heart surgery programs and a staff committed to the care of sick children. Although Queen's is not a pediatric hospital, the active adult heart surgery program, with more than 500 cases each year, and the modest number of pediatric cases, allows the necessary edge in the medical, surgical, and nursing staffs to provide appropriate pediatric surgical intensive care. Some newborns or infants who require prolonged respiratory care are transferred early to Kapiolani-Children's or Tripler's neonatal intensive care units.

Table 5. Surgery for Correctable Cardiac Anomalies Overall Results QMC 1982

	No.	Mortality
Simple anomalies	14	0
PDA, coarctation	6	0
Complex anomalies	12	1
TOTAL	32	1

Further improvement in results can be achieved, not only by upgrading equipment and facilities, but by further concentrating all children requiring cardiac surgery in Hawaii at a single institution. Constant exposure to the elective repair of common malformations, as well as to emergencies and to the fascinating complex forms of congenital heart disease, should improve the skills of everyone involved. This becomes especially important for the critically ill child in these Islands, when the nearest major cardiac surgical center is more than 2,000 miles away.

REFERENCES

1. Moreno-Cabral RJ, Maze A, Shumway NE: Tetralogy of Fallot. In Cohn, LH Modern Techniques in Surgery. Mt. Kisco, NY: Futura, 1979; 5:5-11.
2. Moreno-Cabral RJ, Breitweser JA: Pulmonary embolectomy in the neonate. *Chest*. In press.
3. Goto U: Personal communication.



Clinical Pathologist's Easy Chair

Francis H. Fukunaga, M.D.

Immunopathology of Liver Diseases

The autoimmune diseases of the liver are characterized by non-organ-specific and non-species-specific antibody production. The importance of certain autoantibodies as diagnostic aids is well established. The antibody titers do not correlate with the severity and duration of the disorder but are related to the type of autoimmunity.

The tests most commonly used are the antinuclear antibody (ANA), antimitochondrial antibody (AMA), and anti-smooth-muscle antibody (ASMA). The ANA titer rise is seen in 70 to 80% of patients with chronic active hepatitis with titers that may be more than 1:2,000. It is also seen in about 25% of primary biliary cirrhosis (PBC) at lower titers. One problem in the differential diagnosis is the induction of ANA formation by drugs such as procainamide that causes antibody appearance in 60% of the patients.

The anti-smooth-muscle antibody (ASMA) was thought to be specific for chronic active hepatitis, but is found to be true only at titers of more than 1:80. Lower titers are seen in viral hepatitis and also in a few normal individuals.

AMA is a reliable marker for primary biliary cirrhosis (PBC), where it is positive in more than 90% of the patients. It is also positive in 1 to 3% of Graves' disease, Hashimoto's thyroiditis, pernicious anemia, and in halothane-induced hepatitis.

Some of the autoimmune diseases also show characteristic increases of the immunoglobulins. IgM is approximately twice normal in viral hepatitis and more than 6 times normal in PBC. IgG is about 3 times normal in chronic active hepatitis.

Table

Antibody or immunoglobulin	Viral hepatitis	Chronic active hepatitis	Primary biliary cirrhosis	Extrahepatic biliary obstruction	Portal cirrhosis
ANA	N	> 70%	< 25%	N	10%
AMA	N	< 25%	> 90%	N	N
ASMA	< 25% (< 1:80)	> 75% (> 1:80)	< 25%	N	20%
IgG	N	> 3x	N	N	50%
IgA	N	N	N	N	50-70%
IgM	2x	N	> 6x	N	45%

N = Normal
(% = % positive)

HMA Auxiliary

Drunk and Drugged Drivers Awareness

Michael Whelan, son of **Dr. Thomas** and **Mrs. Norma Whelan**, produced a public service annoucement concerning drunk driving while he was a college student in California. This tape was aired locally in California. Through Whelan's kindness, a copy of this videotape was secured by the Hawaii Medical Association Auxiliary and was submitted to all six TV stations in Hawaii for viewing during December 1983 in conjunction with Drunk and Drugged Drivers' Awareness Month.

* * *

M.A.D.D. Membership

It's not too late to join the M.A.D.D. (Mothers Against Drunk Driving) organization to help fight the drunk-driving problem in Hawaii. Annual individual membership is $20; $40 for a family. Make your check payable to M.A.D.D. and send to the address nearest you:

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Hawaii: **B. Ghosh**, 245 Kuikahi St., Hilo 96720

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Parasitic Infestations in Southeast Asian Refugees

Kenton J. Kramer, M.S.; Pamela Ferguson, B.S.;
Wayne R. McKinny, M.D.; and Wasim A. Siddiqui, Ph.D., Honolulu

• *A total of 552 Southeast Asian refugees who had recently arrived in Hawaii were examined for parasitic infestations between August 1975 and December 1979. Two ethnic groups were represented: Laotians and Vietnamese. The prevalence rate for intestinal parasites was 76.1%. The Laotians had both a higher rate of infestation and a higher rate of multiple infestation than did the Vietnamese. Only 2 cases of malaria were found: a relapse case of* Plasmodium vivax *and a congenital case of* P. malariae. *This is the first report of parasitic infestation in Southeast Asian refugees in Hawaii.*

Nearly a million people from Vietnam, Laos, and Democratic Kampuchea (Cambodia) have fled their home countries since the fall of Saigon in 1975. As of December 1980, the United States had accepted more than 400,000 of these refugees.[1] Upon their arrival in the United States, the refugees were given a general health screening. The seriously ill were hospitalized. However, the majority of the refugees proceeded to their final destination in the United States without a complete health assessment.[2]

Many human parasites are endemic in Southeast Asia, in both urban and rural populations.[3, 4, 5] A screen for intestinal parasites, early in the refugee resettlement program, revealed that infestation was high.[6] Stool examinations were not a routine part of the initial health evaluation of the incoming refugees. Consequently, many refugees arrived in local U.S. communities with parasitic infestations. The Centers for Disease Control, which was monitoring the health status of the Southeast Asians, recommended stool examinations for intestinal parasites to be an essential part of all medical check-ups for Indochinese requiring medical care.[7]

About 6,000 Southeast Asian refugees made Hawaii their first place of residence in the United States between 1975 and 1980.[1] Many refugee families subsequently moved elsewhere in the United States.

An out-patient clinic was established at Kapiolani-Children's Medical Center in 1975 for the health assessment and treatment of these newly arrived refugees. From August 1975 through December 1979, 552 refugees were examined at the clinic for parasitic infestation.

Methods

By cooperation among Kapiolani-Children's Medical Center, the Hawaii Refugee Resettlement Organization, and the Department of Tropical Medicine and Medical Microbiology of the University of Hawaii School of Medicine, an out-patient clinic was set up in 1975 for the care and treatment of newly arrived Southeast Asian refugees in Hawaii. Those refugees contacting the Hawaii Refugee Resettlement Organization for help in resettlement were directed to the clinic. All refugees seen at the clinic had been in Hawaii for less than 3 months.

Specimens for parasitic examination were collected at or delivered to the Kapiolani-Children's Medical Center before being transferred to the Department of Tropical Medicine for processing. Fecal specimens were collected on different days in clean dry plastic cups with tight-fitting lids. The stool samples were routinely refrigerated and processed once or twice weekly. Each sample was first examined grossly for adult worms or proglottids and further processed by the formol-ether techniques.[8] Chlorazol black E stain was used in the identification of protozoan parasites. Fingerstick blood was used to prepare thick and thin blood films on clean glass slides. The blood films were processed and stained by approved methods. Sputum was collected and mixed with an equal volume of 3% sodium hydroxide. The sputum mixture was centrifuged in conical tubes at 500 x g for 10 minutes and the pellet examined microscopically for *Paragonimus* ova. Infected individuals were promptly treated. A follow-up stool sample was examined 4 weeks after treatment. Chi-square was used to test associations between groups.

Results

In this study, 552 Southeast Asians from either Laos (447) or Vietnam (105) were examined. The original design of the survey was to collect 2 stool samples per person. This was accomplished in 95.7% (528) of the people. The average number of specimens examined per person was 1.94 for the Laotians and 1.80 for the Vietnamese.

The prevalence of intestinal parasites in these refugees was 76.1% (Table 1). When compared with the Vietnamese, the Laotians had both a higher rate of infestation and a higher rate of multiple infestation ($P < .005$ and $P < .05$, respectively). In addition, the Laotians were significantly associated with the following parasites: (1) *Trichuris trichiura* ($P < .005$); (2) hookworm ($P < .005$); (3) Opisthorchis flukes ($P < .005$); and (4) *Giardia lamblia* ($P < .005$) (Table 2).

TABLE 1. Results of Stool Examination in Southeast Asian Refugees in Hawaii

Ethnic group	Laotians	Vietnamese	P
Number examined	447	105	
Number infested	373 (83.4%)	47 (44.8%)	< .005
Number multiply infected	262 (58.6%)	25 (23.8%)	< .05

The infestation rate by age and sex for the Laotians is outlined in Table 3. There was no association between infection and age. However, males were more likely to be infected than females ($P < .01$). With reference to specific parasites, Laotian males were significantly associated with *Giardia* infestations ($P < .025$). Differences in infestation rates by age groups were as follows: (1) *Ascaris lumbricoides* infestations were associated with the 0- to 9-year-old group ($P < .005$); (2) *Trichuris trichiura* infestations were associated with the 0- to 9- and 10- to 19-year-old groups ($P < .025$); (3) Opisthorchis fluke infestations were associated with the

Continued on page 14

Department of Tropical Medicine and Medical Microbiology, John A. Burns School of Medicine, University of Hawaii.

These results were presented at the Hawaii branch of the American Society of Microbiology, April 1982.

Accepted for publication October 1983.

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Continued from page 12

20-to 29- and 30- to 39-year-old groups ($P < .005$); and (4) *Giardia lamblia* and *Entamoeba histolytica* infestations were most frequently found in those under 20 years of age ($P < .005$ and $P < .05$, respectively).

The infection rate by age and sex for the Vietnamese is outlined in Table 4. No association was noted between infection and age or sex ($P > .10$). In addition, no association was found between specific parasites and the age or sex groups.

Of the total participating Southeast Asians, 301 were screened for blood parasites. No asymptomatic cases were detected. However, one Laotian experienced a relapse with *Plasmodium vivax* during the study period. A case of congenital malaria caused by *P. malariae* was encountered in a Laotian infant.

Sputum samples were examined from 3 individuals for suspected paragonimiasis. All sputum samples were negative. *Paragonimus* ova were found in the stool of an 8-year-old Laotian male. Subsequent sputum checks confirmed the infestation.

Discussion

As the newly arrived Southeast Asians settled throughout the United States, reports appeared on their high rates of infection with intestinal parasites.[9-15] The rates of infection, in these reports, ranged from 15-78%. The refugees in Hawaii had an infection rate of 76.1%. Of those infected, 68.5% had multiple infestations with intestinal parasites. In this study, the Laotians had a higher rate of infestation than the Vietnamese. This fact has been observed by others.[10, 14] In general, the Vietnamese were more urbanized and had spent less time in refugee camps than the Laotians before immigrating to Hawaii. These circumstances probably account for the difference in the infection rates between these two groups.

Opisthorchiasis and clonorchiasis are endemic throughout Southeast Asia. *Opisthrochis viverrini* is found in northern Thailand and Laos. *Clonorchis sinensis*, on the other hand, is the prevalent Chinese liver fluke of Vietnam.[3] No attempt was made to differentiate the species. Hoffman, et al., also observed that the Laotians had a higher rate of infection with Opisthorchis flukes than the Vietnamese.[14]

Both *Trichostrongylus* and the heterophid flukes are found throughout the Orient, but have not been previously reported from Southeast Asia.[3] Ova of both these parasites were found in this study. *Trichostrongylus* also has been reported in Laotian refugees in New Mexico.[15]

Tuberculosis is a common infection in

Continued on page 16

TABLE 2. Specific Parasites Found in Stool Examinations of Southeast Asian Refugees

Parasite	Total N=552	Laotians N=447	Vietnamese N=105	P
Ascaris lumbricoides	82 (14.9%)	69 (15.4%)	13 (12.4%)	NS[1]
Trichuris trichiura	138 (25.0%)	126 (28.2%)	12 (11.4%)	< .005
Enterobius vermicularis	2 (0.4%)	2 (0.4%)	0	NS
Hookworm	260 (47.1%)	245 (54.8%)	15 (14.3%)	< .005
Strongyloides stercoralis	24 (4.3%)	19 (4.3%)	5 (4.8%)	NS
Trichostrongylus sp.	3 (0.5%)	3 (0.7%)	0	NS
Taenia sp.	4 (0.7%)	3 (0.7%)	1 (1.0%)	NS
Opisthorchis flukes	70 (12.7%)	68 (15.2%)	2 (1.9%)	< .005
Heterophid flukes	7 (1.3%)	7 (1.6%)	0	NS
Schistosoma japonicum / *Schistosoma mekongi*	1 (0.2%)	0	1 (1.0%)	NS
Fasciolopsis—Fasciola sp.	1 (0.2%)	1 (0.2%)	0	NS
Paragonimus westermani	1 (0.2%)	1 (0.2%)	0	NS
Entamoeba histolytica	37 (6.7%)	33 (7.4%)	4 (3.8%)	NS
Giardia lamblia	137 (24.8%)	129 (28.9%)	8 (7.6%)	< .005
Commensal protozoans[2]	221 (40.0%)	198 (44.3%)	23 (21.9%)	< .005
Isospora belii	1 (0.2%)	1 (0.2%)	0	NS

[1]NS—not significant
[2]*Entamoeba hartmanni, E. coli, Endolimax nana, Iodamoeba buetschlii, Dientamoeba fragilis, Chilomasti mesnili*

TABLE 3. Age, Sex, and Prevalence of Intestinal Parasites in 447 Laotian Refugees

Age (years)	Sex: Female No. positive/total	Male No. positive/total	Unknown No. positive/total	Total No. positive/total
0-9	46/57 (80.7 %)	64/76 (84.2%)		110/133 (82.7%)
10-19	29/35 (82.9 %)	75/77 (97.4%)		104/112 (92.9%)
20-29	27/33 (81.8 %)	36/39 (92.3%)		63/72 (87.5%)
30-39	12/18 (66.7 %)	18/20 (90.0%)		30/38 (78.9%)
40-49	5/8 (62.5 %)	6/7 (85.7%)		11/15 (73.3%)
50-59	6/7 (85.7 %)	3/4 (75.0%)		9/11 (81.8%)
60-69	3/3 (100.0 %)	2/3 (66.7%)		5/6 (83.3%)
70+	1/1 (100.00%)	0		1/1 (100.0%)
Unknown			40/59 (67.8%)	40/59 (67.8%)
Total	129/162 (79.6%)	204/226 (90.3%)	40/59 (67.8%)	373/447 (83.4%)

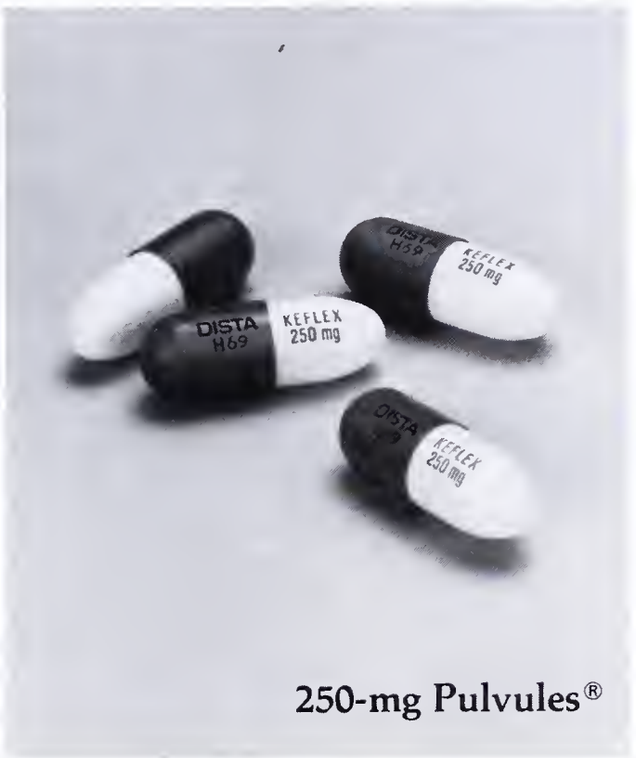
X^2 for age: $P > .10$. Unknowns not included.
X^2 for sex: $P < .01$. Unknowns not included.

TABLE 4. Age, Sex, and Prevalence of Intestinal Parasites in 105 Vietnamese Refugees

Age (years)	Sex: Female No. positive/total	Male No. positive/total	Unknown No. positive/total	Total No. positive/total
0-9	2/12 (16.7%)	3/11 (27.3%)		5/23 (21.7%)
10-19	4/8 (50.0%)	5/9 (55.6%)		9/17 (52.9%)
20-29	2/2 (100.0%)	6/7 (85.7%)		8/9 (88.9%)
30-39	2/4 (50.0%)	1/2 (50.0%)		3/6 (50.0%)
40-49	2/5 (40.4%)	1/5 (20.0%)		3/10 (30.0%)
50+	0	2/3 (66.7%)		2/3 (66.7%)
Unknown			17/37 (45.9%)	17/37 (45.9%)
Total	12/31 (38.7%)	18/37 (48.6%)	17/37 (45.9%)	47/105 (44.8%)

X^2 for age: $P > .10$. Unknowns not included.
X^2 for sex: $P > .10$. Unknowns not included.

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the Southeast Asian refugees.[7] In addition, paragonimiasis has been reported in this group. Paragonimiasis should be considered in the differential diagnosis of bronchopulmonary illness consistent with tuberculosis.[12, 16]

Schistosomiasis is endemic in the Lower Mekong River Basin, especially in parts of Laos and northwest Thailand. *S. mekongi* is found along the Mekong River and is endemic around Khong Island, Laos. *S. mekongi* infections have been reported in Laotian refugees in the U.S.[17] The single patient in this study was an 18-year-old Vietnamese man. He denied visiting an *S. mekongi* endemic area while in Southeast Asia. He left Vietnam shortly before the Communist takeover and subsequently spent 2 years on Kyushu Island, Japan, where *S. japonicum* was once endemic, but is now under control.[18] The only ovum found was within the size range of both species and therefore an exact diagnosis was not possible.

Only 2 cases of malaria were detected in this study: a relapse case of *P. vivax* and a congenitally contracted case of *P. malariae*. The Southeast Asian refugees accounted for the noticeable increase in the reported cases of malaria diagnosed in the U.S. during 1980.[1] However, the possibility of malaria becoming a public health problem in the U.S. because of this appears remote.[19]

The risk of continued transmission of most of the parasitic infections in the Southeast Asian refugees is minimal in the United States. The improved sanitary conditions encountered by the refugees in the U.S., combined with proper hygienic practices and the lack of appropriate intermediate hosts, should limit the spread of most intestinal parasites. The most likely situation for the transmission of intestinal protozoa is in school-age children. In Hawaii, where recently arrived immigrants of many nationalities account for the majority of the diagnosed parasitic infestations, it was shown by Desowitz and Wiebenga that no transmission of intestinal parasites was occurring in the public elementary schools by 1975.[20]

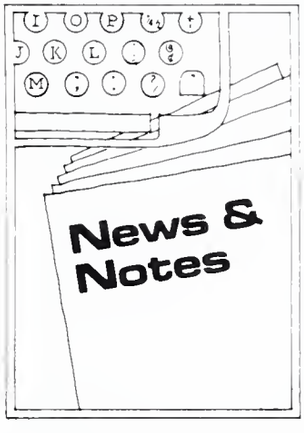
It has been about 8 years since the largest influx of Southeast Asian refugees arrived in the United States. Since no organized screening and treatment program for parasitic infestation was implemented, physicians attending Southeast Asian refugees should continue to be aware of the high prevalence of intestinal parasites in this group of patients.

ACKNOWLEDGMENTS

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REFERENCES

1. Annual summary 1980: Reported morbidity and mortality in the United States. Centers for Disease Control. *MMWR* 1981; *29*(54):116-119.
2. Aduan RP, McCutcheon M, Eitz M, Sanger P. Refugees from Indochina. *Ann. Intern. Med* 1980; *92*(2):266.
3. Segal DB, Humphrey JM, Edwards SJ, Kirby MD: Parasites of man and domestic animals in Vietnam, Thailand, Laos and Cambodia. *Exp. Parasit.* 1968; *23*:412-464.
4. Colwell EJ, Welsh JD, Boone SC, Legters L: Intestinal parasitism in residents of the Mekong Delta of Vietnam. *Southeast Asian J. Trop. Med. Public Health* 1971; *2*(1):25-28.
5. Sornmani S, Pathammavong O, Bunnag T, Impand S, Intarakhao C, Thirachantra S: An epidemiological survey of human intestinal parasites in Vientiane, Laos. *Southeast Asian J Trop. Med. Public Health* 1974; *5*(4):541-546.
6. Survey of Vietnamese refugee centers for intestinal parasites. Centers for Disease Control. *MMWR* 1975; *24*(47):398.
7. Health status of Indochinese refugees. Centers for Disease Control. *MMWR* 1979; *28*(33):385.
8. Paik G, Suggs MT. Reagents, stains and miscellaneous test procedures in Manual Clinical Microbiology, 2nd edition. Lennette EH, Spaulding EH, Truant JP (eds). *Am. Soc. Microbiology*, Washington DC, 1974.
9. Holtan NR, Crossley KB, Pries CN: Prevalence of intestinal parasites in a Laotian immigrant community. *Minn. Med.* 1979; *62*(10):749-752.
10. Lindes C: Intestinal parasites in Laotian refugees. *J. Fam. Pract.* 1979; *9*(5):819-822.
11. Wiesenthal AM, Nickels MK, Hashimoto KG, Endo T, Ehrland HB. Intestinal parasites in Southeast Asian refugees: prevalence in a community of Laotians. *JAMA* 1980; *244*(22):2543-2544.
12. Erickson RV, Ngoc Hoang G: Health problems among Indochinese refugees. *Am. J Public Health* 1980; *70*(9):1003-1005.
13. Health screening of resettled Indochinese refugees—Washington DC, Utah. Centers for Disease Control. *MMWR* 1980; *29*(1):4.
14. Hoffman SL, Barrett-Connor E, Norcross W, Nguyen D: Intestinal parasites in Indochinese immigrants. *Am. J Trop. Med. Hyg.* 1981; *30*(2):340-343.
15. Skeel MR, Nims LJ, Mann JM: Intestinal parasitosis among Southeast Asian immigrants in New Mexico. *Am. J. Public Health* 1982; *72*(1):57-59.
16. Paragonimiasis in Hmong refugees—Minnesota. Centers for Disease Control. *MMWR* 1981; *30*(15):176.
17. Hofstetter M, Nash TL, Cheever AW, dos Santos JG, Ottesen EA: Infection with *Schistosoma mekongi* in Southeast Asian refugees. *J. Infect. Dis.* 1981; *144*(5):420-426.
18. Hunter GW, Yokogawa M, Akusawa M, Sano M, Araki K, Kobayashi M: Control of Schistosomiasis japonicum in the Nagatoishi Area of Kurume, Japan. *Am. J. Trop. Med. Hyg.* 1982; *31*(4):760-770.
19. Guerrero IC, Chin W, Collins WE: A survey of malaria in Indochinese refugees arriving in the United States, 1980. *Am. J. Trop. Med. Hyg.* 1982; *31*(5):897-901.
20. Desowitz RS, Wiebenga N: A survey of intestinal parasites in Oahu school children. *Hawaii Med. J* 1975; *34*(1):21-23.



Henry N. Yokoyama, M.D.

Toast: To the Doctors! May they never become too friendly with the undertakers!

Miscellany

(As told by our golfing friend who wishes to remain anonymous:)

"Have you been to any other doctor before you came to me?" asked the grouchy doctor. "No, sir," replied the patient, meekly, "I just went to a druggist." . . . "You went to a druggist!" exclaimed the doctor. "That shows how much sense some people have! And what idiotic advice did the druggist give you?" . . . "He told me to come and see you," replied the patient.

Life in These Parts I

Many people think **Dudley Seto** is Japanese because he looks Japanese and his name sounds Japanese, but Seto is Chinese and his good looks come from his Japanese mother. That's not his problem . . . Dudley's problem is that many of his patients think he understands Japanese and do not realize that, without his Japanese-speaking nurse, he is as helpless as a fish out of water . . . As Dudley relates the incident, one day an elderly Japanese woman had returned for report of the tests she had taken and his interpreter-nurse was not in the examining room . . . The woman babbled in Japanese and Dudley mustered his best Japanese and replied "Hai . . . Hai . . ." The patient visibly paled and again babbled something . . . Stalling for time, Dudley again replied, "Hai . . . Hai . . ." The patient was close to tears . . . Just then his nurse came in and unraveled the mystery . . . The patient had first asked, "Am I terribly sick?" To which Dudley had replied, "Yes . . . yes . . ." That wasn't bad enough for she then asked, "Do I have cancer?" Again Dudley had replied, "Yes . . . yes . . ." Poor Dudley has been careful with his "Hai . . . Hai's" since . . .

Fred Reppun reports that a patient called him one day to ask if a "square" bowel movement meant he had cancer!

From the Desk of Harry L. Arnold Jr.

Notes on the writing of Scientific Papers (Some amusing anecdotes by The Links):

Introduction: "It has long been known that . . ." means "I haven't bothered to

Continued on page 17

Continued from page 16

look up the original reference."

"While it has not been possible to provide definite answers to these questions . . ." means "The experiments didn't work out, but I figured I could at least get a publication out of it."

Experimental procedure: "The W-Pb solution was chosen as especially suitable to show the predicted behavior" means "The fellow in the next lab had some already made up."

"Three of the samples were chosen for detailed study" means "The results on the others didn't make sense and were ignored."

Results: "Typical results are shown" means "The best results are shown."

"Although some detail has been lost in reproduction, it is clear from the original micrograph that . . ." means "It is impossible to tell from the micrograph."

"Presumably at longer times . . ." means "I didn't take time to find out."

"The agreement with the predicted curve is excellent" means "Fair";

". . . satisfactory . . ." means "doubtful";

". . . fair . . ." means "imaginary."

"These results will be reported at a later date" means "I might possibly get around to this sometime."

"The most reliable values are those of Jones" means "He was a student of mine."

Discussion: "It is suggested that . . ."; "It is believed that . . .", and "It may be that . . ." means "I think."

"It might be argued that . . ." means "I have such a good answer to this objection that I shall now raise it."

"Correct within an order of magnitude" means "wrong."

"It is to be hoped that this work will stimulate further work in the field" means "This paper isn't very good, but neither are any of the others on this miserable subject."

Worth Repeating

For all you fisherfolk:

Ciguatera fish poison cases are on the rise in Hawaii because of the marine construction projects underway at Pokai Bay and the Reef Runway. From 1900 to 1974, there were only 59 incidents (affecting 450 people), but from 1975 to 1981, there have been 81 outbreaks affecting 203 people . . . Ciguatera is caused by organisms called dynoflagellates that attach themselves to algae which are eaten by reef fish. (The dynoflagellate-laden algae are the first organisms to grow on newly exposed reef.) The greatest number of cases occur in July and the least in February. **J.K. Sims,** coauthor of a state Department of Health study, says one becomes ill 3 to 5 hours after eating the toxic fish . . . The symptoms include a general weakness, painful tingling and

Continued on page 18

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Continued from page 17

numbness around the mouth, muscle pain, and temperature reversal . . . J.K. recommends not eating the head or tail of fish caught in the tropics . . . (Ref. HAWAII MEDICAL JOURNAL, October 1983)

Life in These Parts II

Ronald AhLoy, 33, was a surf bum, surfing champ, and surf board maker . . . All this ended when he got a dismal third place trophy instead of first . . . Thus followed 11 years of a changed lifestyle during which he obtained a medical degree, specialized in internal medicine and infectious diseases, married and raised five kids, and finally opened his office on the Big Island . . . Now he's ready to resume surfing . . .

Neurosurgeon **Kathryn Ko** got together with best friend Deanna Mukai and they came up with Moki's Laws (the Hawaiian version of Murphy's Laws) and put them on a poster . . . Examples: "A luau is when pig is served and made of oneself . . . Whoever invented saimin must have also invented spam . . . Clouds always have a way of following you to the beach . . . The chance you losing the top of your shave ice is directly proportional to how long the line was." (Don Chapman's column)

Plastic surgeon **Richard Siegel** at Kaiser received a size 38D bra with the imploring note, "Please, Doc, fill 'em up!" from a beautiful, but flat-chested lady . . . The story has a happy ending. (Don Chapman's column)

Hilo cardiologist and amateur poet **Jiro Nakano** has edited and translated 60 poems (haiku and tanka) written by Japanese internees during WW II . . . The volume "Poets Behind Barbed Wire" is on sale for $5 in a few Hawaii bookstores . . . Jiro feels that the haiku- and tanka-writing in the camps served as a kind of psychotherapy . . . Jiro wrote haiku as a young man, but years ago . . . He says, "I knew I didn't have talent, so I went to medical school."

In a three-year study, Honolulu psychiatrist **Jon Streltzer** has discovered that cancer patients who have greater difficulty adjusting to their disease survive longer than those who adjust easily . . . Jon feels that "behavior that physicians consider to be compliant and indicative of a good patient may not be the most optimal for survival." Long-term survivors experienced more anxiety, alienation, depression, and grief.

Dermatologist **Norman Goldstein** addressed the Tucson, Ariz., Rotary Club in September with his talk, "Tutus with Tatoos in Tucson." (Dave Donnelly's Hawaii)

"Dear Ms. Fixit: Dr. **Dennis R. Meyer**, an internist at the Queen's Physicians Office Building, witnessed an alleged hit-and-run accident. Although he had to drive around the block, in morning rush-hour traffic, he was willing to become involved and return to the scene of the accident."

"Dr. **Richard Blaisdell** surprised the crowd at the recent "Health, Humor and Harmony" project at Kamehameha by singing one of his own compositions instead of giving a prepared address. (Ben Wood's Hawaii, September 18)

Miscellany

As told by PHN Patsy Matsuura of Hilo: A woman breast-stroker won the swim across the English Channel in record time . . . The woman swimmer who came in second accused the winner of using her arms . . .

A Scandinavian family named their fifth child Chang . . . They had heard that every fifth child born in the world was Chinese . . .

Another Scandinavian family had the strange last name, Sam Ting . . . The father had come to America as Olson, but when going through immigration, he had followed another man named Olson . . . The immigration official asked for his name, and he naturally answered "Sam Ting . . ."

Elected, Appointed & Honored

Joseph J. McNamara or **J. Judson**, as he is more usually known, was elected to serve a 3-year term as the American College of Cardiology's governor for Hawaii . . . **Helen Percy** has been recertified as a diplomate of the American Board of Family Practice . . . **Julia Frohlich**, who has served 7 years as director of the Blood Bank of Hawaii, was recently elected president and chief executive officer . . . **George Bolian**, psychiatrist who came to Queen's in 1970 and who has been senior associate administrator since 1976 and senior VP since 1978, has been appointed president of QMC replacing Will Henderson . . . Wailuku surgeon **John A. McCurdy Jr.** was on a panel discussing "Facial Surgery in the Non-Caucasian" at the Anaheim Meeting of the American Academy of Facial Plastic and Reconstructive Surgery in October . . . **Claire Zomzely-Neurath**, director of QMC Department of Research, has received a $205,000 grant from the National Science Foundation. The award is for basic research to study the regulation of genes for brain-specific proteins . . .

Sportsmen . . .

The winners at the 127th Annual Meeting HMA Golf tournament played at Wailea Blue on Maui were: Low gross **Mike Okihiro**, with gross 79; Gordy Somekawa (drug rep), low net with 72. At net 73 were **Dick Ho, Masaru Koike, Frank Fukunaga,** and **Mike Okihiro** . . . Credit for the well-run, prizes-aplenty tournament goes to Chairman **Ike Nadamoto** and his assistants **Don Maruyama** and **Tom Kobara** . . .

The KMC Golf Tournament held at Pearl Country Club was a 2-man team scramble . . . and scramble they did. The winning duo was **Shozo Ogawa** and **Paul Muramoto** (hospital purchasing agent). In second place was **Masaru Koike** and Masa Tasaka (hospital administrator) and in third was **Tad Iwanuma** and **Frank Fukunaga**. We learned that **Francis Oda** and **Hideo Oshiro** were 5 under after 9 holes and then all hell broke loose . . .

Sportsmen

Runners: The Heavy Breathers placed fifth in the Open Division of the Honsport 30-30 Men's Relays held 8-28-83. The 5-man team consisted of **Osamu Fukuyama** (39:55), **Don Nikaitani** (38:22), **Owen Kaneshiro** (42:30), **Roy Ebisu** (42:08), and one non-M.D., Jeff Huff (38:25).

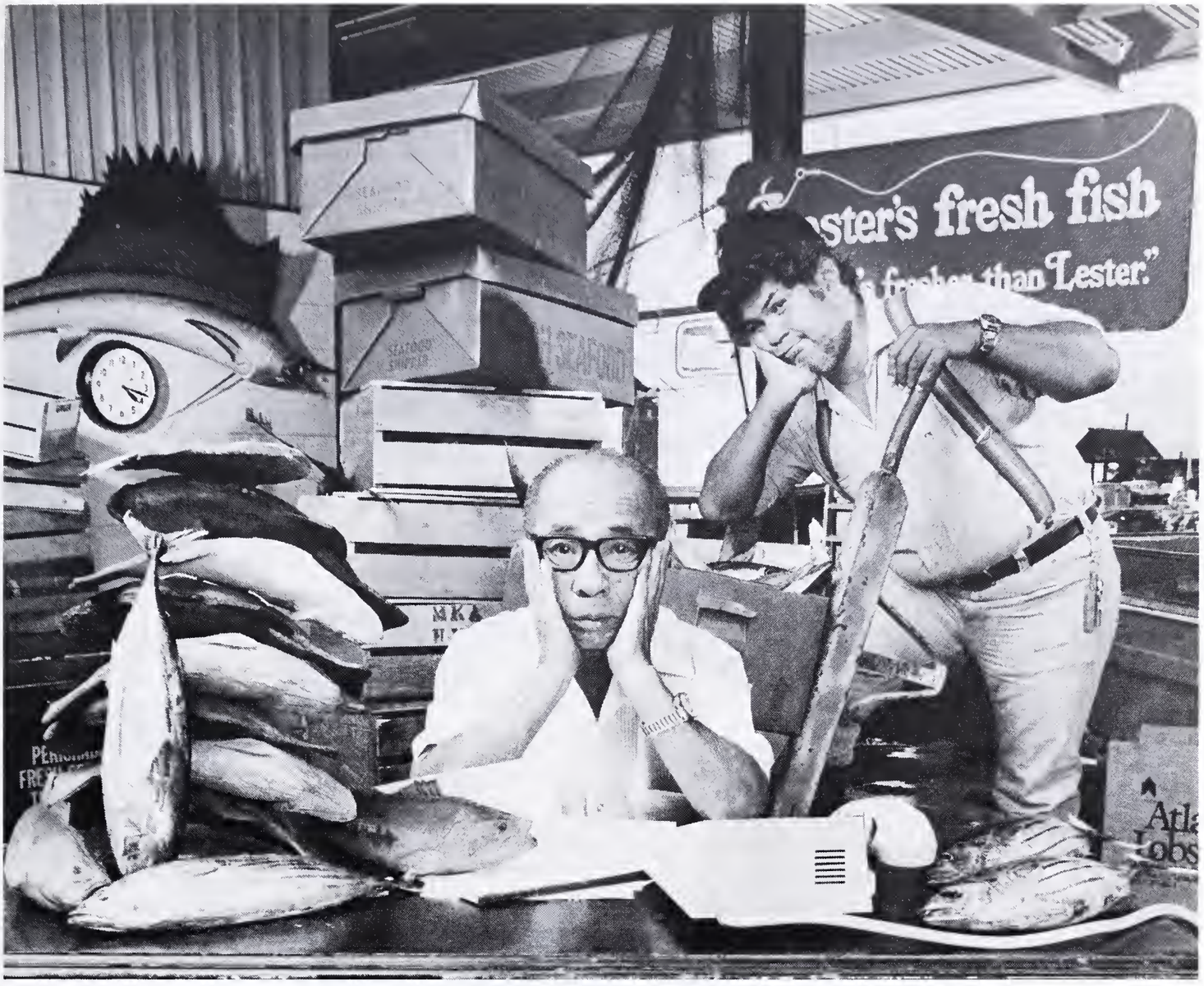
Hors De Combat

Problems . . .

We have followed the QMC mandatory malpractice insurance issue with some trepidation, since the initial suspension of 107 physicians and dentists who failed to show proof of having malpractice insurance . . . (And we feel for the 107 because we were one of them . . .) Back in September, **Claude Caver**, president of the Physicians Protective Association, declared, "I have not carried and will never carry malpractice insurance because I have no intention of committing malpractice on anybody . . . It has long been proven that going without insurance prevents you from committing negligent acts and prevents you from being sued." **Lee Simmons**, president of the Hawaii Federation of Physicians and Dentists, agreed, "Being insured tends to increase the number of lawsuits . . . It will ultimately raise the cost of medical care . . ." **Jim Marnie**, then chief of family practice at QMC, said he has "always been opposed to malpractice insurance because I'm of the opinion it just supplies lawyers with more fuel for the fire . . . The hospital can't legally take privileges away without giving the physicians due process . . ." **George Bolian**, then acting president of Queen's, explained that the hospital had to pay the share of malpractice costs for physicians who went bare . . . Claude Caver suggested that Queen's could adopt the policy used by Kaiser Medical Center of compulsory arbitration of all disputes, thus staying out of court . . . George said Queen's is studying the concept . . . One major difference between Kaiser and Queen's is that Kaiser patients are members of their health plan and agreed in advance to the arbitration process . . .

By October, all but 59 physicians and dentists had complied with the requirement and Queen's was sticking to its

Continued on page 20



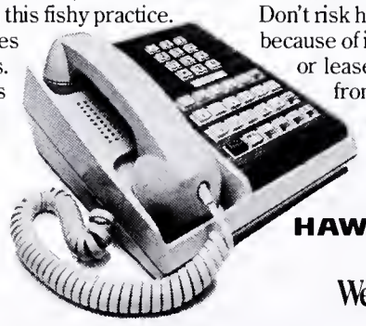
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Continued from page 18

policy of no proof of insurance, no privileges . . . Lee Simmons had since "capitulated because I am dependent on the hospital for my livelihood." **Francis Dann**, who like Lee, carried the necessary insurance but still had refused to show proof of coverage, said, "This is a big mess and it could have been solved if only there was a spirit of compromise . . . In suspending the doctors, the hospital has distorted its bylaws by setting aside the guarantees to protect physicians . . ." Francis argued that the hospital's board of directors, and particularly its chairman, Malcolm MacNaughton, "look at Queen's as a bottom-line corporate structure rather than as a facility that takes care of people . . . The physicians were treated like children and were allowed little input into the decision of mandatory malpractice insurance." Lee Simmons feels that since Queen's and other hospitals are facing hard times economically. "This is a time we need to be working together . . . I don't like this atmosphere of conflict and distrust."

More Problems . . .

As if the Queen's insurance war wasn't enough to ruffle our feathers, Mary Bitterman, director of the state Department of Commerce and Consumer Affairs, announced that doctors will be assessed a vastly increased "surcharge" for participating in the state's Patients Compensation Fund . . . The surcharge rose from 30% to 114%, effective October 15. The hospitals' surcharge will rise from 21% to 96%, effective the same date . . . Bitterman explained the higher rate was needed because 17 claims, each for more than $200,000, were paid by the fund since 1980 and she anticipates more large claims to come . . . The Hawaii Medical Association asked the state to defer for 6 months the increased assessments, but Mary Bitterman held firm . . . **Philip Hellreich**, chairman of the HMA's committee on malpractice insurance, expressed concern that the fund would be bankrupted if a large number of physicians pull out because of the high assessments. The participation in the fund is voluntary . . . (Editor's note: Since Queen's only requires the basic coverage of $200,000 per claim and an annual aggregate limit of $400,000, and since participation in the state's fund is not mandatory, why should we even pay the 30%, let alone the new 114% surcharge? . . . We are only encouraging larger and larger suits . . .)

And Even More Problems

Russell D.C. Kim, the attorney and administrator for the Physicians Protective Association of Hawaii (PPAH), was removed from his position by the board

Continued on page 22

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Continued from page 21

of directors on August 5. The association had invested about $200,000 in the bankrupt company of Bishop, Baldwin, Rewald, Dillingham & Wong. Kim contends that it was the board that decided to invest the money and not he . . .

Oncology Dialogue

(Notes from a 1981 KMC oncology conference . . .)

A 55-year-old woman had CA of the breast, treated 14 years ago, and now has linitis plastica . . . Moderator **Glenn Kokame** asked, "What's the CA staying dormant for 14 years?" Pathologist **Grant Stemmerman:** "Some will say it is in GI and others will say G2 . . . Let me make a plea for better histories . . . Fortunately we had enough material in deep freeze for estrogen receptor studies . . ." Oncologist **Paul Condit** added, "The patient had oophorectomy in December with some response . . . So with adrenalectomy there is possibility of further response . . ." Oncologist **Noboru Oishi:** "There is talk that medical adrenalectomy is just as good as surgical adrenalectomy . . ." Stemmy asked mischievously, "Why not give everything at once instead of piece-meal . . . Tomoxifen and all those mixtures of poisons you have . . ." Oncologist **Kevin Loh** agreed, "You are right . . . There is data from Oklahoma that giving combined adjuvant therapy results in longer disease-free intervals . . ." Purist **Noboru Oishi** retaliated, "I'm sorry to hear Stemmy even suggest that . . ." Radiotherapist **Carl Boyer** speculated, "We are speaking of disease-free intervals with adjuvant therapy . . . If this lady had been given adjuvant therapy 14 years ago, what a statistic she would have been . . ." Glenn: "Some people are doing oophorectomy and adrenalectomy at the same time . . ." Surgeon **Roy Iritani** disagreed, "I think sequential surgery is better . . ." At this point, **Carl Boyer** remarked, "I think we should stop talking . . . It's getting ridiculous . . ." Moderator Glenn added, "Amen . . ."

Miscellany . . .

John was jogging in Ala Moana Park and found 2 brand new balls outside the tennis courts . . . With no one coming to claim them, he stuffed the balls into his shorts and continued on . . . Clara, a fellow jogger, caught up with him and noticed the prominent bulges . . . "What are those?" she inquired . . . "Tennis balls . . ." he replied nonchalantly . . . She grimaced sympathetically . . . "My husband had a tennis elbow recently and he was miserable . . . Do they hurt?" (As told by **Dudley Seto** at **Grant Stemmerman's** recent retirement party . . .)

A world famous golfer was on a private yacht which ran aground on a small island and he remained shipwrecked for more than 20 years . . . One day a rescuer finally came in the form of a lovely curvaceous blonde who piloted her own luxury motor boat on an off-beat pleasure cruise . . . He rubbed his eyes to make sure it was not an illusion. The blonde said, "I know how much you missed everything . . . How about a drink?" So she poured a stiff drink of Scotch and he downed it with a single gulp. "How about a cigarette?" She lit him a cigarette and he eagerly puffed away . . . He was living again . . . and sighed with deep satisfaction . . . She pursued further, "I know you want to play around . . ." she invited with a sexy smile . . . He was simply in 7th Heaven and could hardly contain himself, "You mean you even have a set of clubs in your boat?" (As told by **William Busse** and retold by Claire Loo, our favorite MSD rep)

Court Monitors for M.A.D.D. Urgently Needed

On Oahu a group of M.A.D.D. volunteers have been monitoring court cases involving drunk driving; it has been an eye-opening experience for them. Judges, prosecutors and defense attorneys are aware of the presence of the monitors, and they feel that their presence really makes a difference. More volunteers are needed for this important work. If you can spare a few daytime hours, any day between Monday and Friday, please call **Carol McNamee**, 373-3201 or 373-3390, or **Nancy Wueful**, 261-5054.

Another Oncology Conference Dialogue

A 45-year-old Japanese man with rectal bleeding for 3 months was found to have a lesion 22 cm from the anal verge. PMH: coronary bypass surgery in 1980. Pt. had a sigmoid colectomy. The path diagnosis was Duke's Type C. Radiologist **David Sakuda** described the BE findings as a "5 cm apple-core lesion of the sigmoid." Moderator **Glenn Kokame** asked, "When you see an apple core like this, how long has he had it?" David: "At least 2 or 3 years." Pathologist **Larry McCarthy** added, "There were 2 to 6 positive nodes in the specimen." Fellow pathologist **Grant Stemmerman:** "I recently analyzed the relationship of low cholesterol with low hematoerit and advanced colon CA . . ." Larry wondered, "If he had low cholesterol, why the need for bypass surgery?" Grant had a ready answer: "The relationship of low cholesterol and colon cancer is for right colon rather than left colon . . ." Glenn wondered, "What parameters can we use?" Larry: "CEA, if elevated before surgery." Glenn: "What percent will reflect the rise of CEA?" Larry: "50 to 60% will show elevation." Glenn: "How about false positives?" Larry: "Oh yes, with heavy smoking." Radiotherapist **Carl Boyer** asked a leading question: "When surgeons operate on a belly, do they feel compelled to do an appendectomy?" Surgeon **Bill Morioka**: "There is a certain incidence of postoperative appendicitis." Surgeon **Roy Tanouye:** "If the appendix is small and fibrotic, no . . ." The discussion took another turn when Stemmy said, "Two percent of large bowel tumors are of the signet ring type . . . And they have the same poor prognosis as gastric CA of the signet ring type . . ." Larry kept the discussion going . . . "What should we do for screening . . . Here's a 45-year-old with a 3-year-old lesion . . ." Glenn asked, "David, any good mass screening techniques?" David: "Good air contrast is excellent for screening. A good BE is good for 3 years . . . In any high risk situation, a BE every 3 years . . . You can't do this with colonoscopy . . . Colon CA is usually associated with polypoid lesions and BE can pick up 2 to 3 cm polyps . . ." Radiotherapist **Carl Boyer**: "Cost effectiveness of positive guaiacs has diminishing returns . . . I feel anyone over age 50 should have a colonoscopy . . ." Stemmy: "62% of autopsy cases have adenomas of the colon . . . 7% over age 65 have unsuspected CAs . . . The cost effectiveness of guaiac positive is $11.5 million for each CA in this population . . . I'm looking for a CEA-like test . . ." Larry suggested, "How about sigmoidoscopy every 3 years after age 40 if the patient is in high risk population group?"

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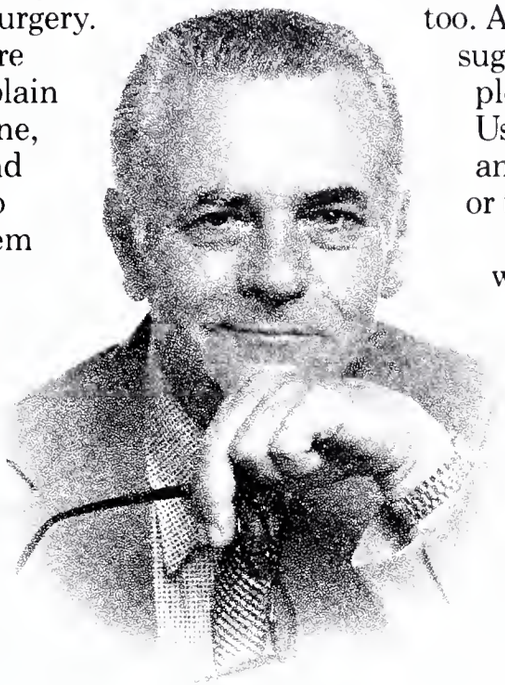
From what our HMSA members tell us, more doctors seem to be perfecting that old fashioned 'bedside manner.'

To the patient, every illness is serious, especially surgery. Today more doctors are taking the time to explain what is going to be done, why it's being done and how much it's going to cost. Patients, too, seem to be more concerned and willing to talk about these important matters.

We think these are both healthy signs. We can all do our part to promote this kind of helpful dialogue.

We'd like to hear from you, too. Anytime you have a suggestion or question, please let us know. Usually we can have an answer for you in a minute or two.

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Accredited Programs of CME allow one unit of AMA credit for each hour of instruction excluding all "breaks." Some programs also are accredited for AAFP prescribed credit.

For a complete list of ongoing programs, please refer to the September 1983 issue of the HAWAII MEDICAL JOURNAL. Further information is available through the individual institutions or through the HMA's CME Department.

SPECIAL EVENTS

Jan. 7-14, 1984	Pan-Pacific Surgical Association—17th Congress, Pan-Pacific Surgical Association, 1164 Bishop Street, Suite 1717, Box 553. At: Honolulu, Hawaii.
Jan. 16-20, 1984	Gastro-Intestinal and Hepatic Diseases, Honolulu Medical Group Research and Education Foundation, 550 S. Beretania Street, Honolulu, Hawaii 96813. To be held at the Mauna Kea Beach Hotel, Big Island, Hawaii.
Jan. 15-21, 1984	AMA Winter Scientific Session. Contact: Bob Hobart, Dept. of Meeting Management, 535 N. Dearborn Street, Chicago, Ill. 60610. To be held at the Sheraton Waikiki, Royal Hawaiian, Surfrider, Moana, and Princess Kaiulani hotels in Honolulu, Hawaii.
Jan. 16-22, 1984	Second Annual Topics in Internal Medicine, University of Colorado Health Sciences Center, Office of Post-graduate Education, Campus Box C295, 4200 East 9th Avenue, Denver, Colo. 80262, (303) 394-5241.
Jan. 21-28, 1984	Pediatric Emergencies, University of California, San Diego, School of Medicine, La Jolla, Calif. 92093. At: Kona, Hawaii.
Jan. 21-28, 1984	12th Annual Diagnostic Radiology Seminar, University of California at San Francisco, Dept. of Radiology, Post-graduate Education, Room C324, Third & Parnassus Ave., San Francisco, Calif. 94143, (415) 666-5731. To be held on Kauai, Hawaii.
Jan. 22-26, 1984	8th Annual Echocardiography Conference, Honolulu Medical Group Research and Education Foundation, 550 S. Beretania Street, Honolulu, (808) 537-2211. To be held at the Kahala Hilton Hotel, Honolulu, Hawaii.
Jan. 22-29, 1984	Advanced Problems in Cardiac Emergencies, American Institute of Postgraduate Education, P.O. Box 2101, Del Mar, Calif. 92014, (619) 753-0540 or (619) 454-3212. At: Kona Surf Hotel, Big Island, Hawaii.
Jan. 27-29, 1984	A Psychiatric Update for Physicians: The Mind and Medicine. Contact: Royal Hawaiian Seminars, 1314 S. King Street, Suite 609, Honolulu, Hawaii 96814. At: Halekulani Hotel, Honolulu, Hawaii.
Feb. 2-9 1984	Pan American Conference on Fertility and Sterility, U.S. International Foundation for Studies in Reproduction, Inc., 112-44 69th Avenue, Forest Hills, N.Y. 11375. At: Kona, Hawaii.
Feb. 2-11, 1984	Postgraduate Course in Infertility and Reproductive Endocrinology, U.S. International Foundation for Studies in Reproduction, Inc., 112-44 69th Avenue, Forest Hills, N.Y. 11375.
Feb. 3-7, 1984	Advanced Seminar for Physicians, Administrators and Trustees, Estes Park Institute, Box 400, Englewood, Colo. 80151. At: Molokai, Hawaii.
Feb. 4-10, 1984	Perinatal Medicine, University of Southern California School of Medicine, Post-graduate Division, KAM 320, 2025 Zonal Avenue, Los Angeles, Calif. 90033, (213) 224-7047. To be held at the Royal Lahaina Hotel on Maui, Hawaii.
Feb. 11-18, 1984	A Course in Otolaryngic Allergy, American Academy of Otolaryngic Allergy, Director of Extramural Education, 1101 Vermont Avenue, N.W., Suite 302, Washington D.C. 20005. At: Kona, Hawaii.
Feb. 14-17, 1984	Cardiology Update, Straub Clinic & Hospital, 888 S. King Street, Honolulu, Hawaii 96813, (808) 523-2311, Ext. 8152. Contact: Institute for Medical Studies, Mrs. Kim Stroich, 14761 Franklin Avenue, Suite A, Tustin, Calif. 92680, (714) 832-2650. At: Hilton Hawaiian Village, Honolulu, Hawaii.
Feb. 25-March 3, 1984	Recent Advances in Cardiology—Annual Meeting. Contact: Yvonne Brewer, 1188 Bishop Street, Suite 3411, Honolulu, Hawaii 96813, (909) 524-3540, (808) 523-3900. At: The Lodge at Vail, Colorado.
March 11-18, 1984	Kidney Diseases Course, University of Colorado Health Sciences Center, Office of Post-graduate Medical Education, Campus Box C295, 4200 East 9th Avenue, Denver, Colo. 80262, (303) 394-5241 or 394-5195. To be held on Maui.
March 15-17, 1984	Mid-Life Issues, Hawaii Psychiatric Society and Area VII of the American Psychiatric Association. For further information call D. Chang, (808) 947-8573. To be held at the Maui Inter-Continental Hotel, Maui, Hawaii.
March 16-23, 1984	The Spine, University of Washington, Continuing Medical Education, Health Sciences Center D-303, Seattle, Wash. 98195, (206) 543-1050. To be held at the Westin Wailea Beach Hotel, Maui, Hawaii.
April 29, 1984	Hawaii Asthma Allergy Symposium—1984, The Hawaii Asthma Camp, (808) 537-6954, 1710 Pali Highway, Honolulu, Hawaii 96813. At: Westin Ilikai Hotel, Honolulu, Hawaii.

Index to Hawaii Medical Journal, Volume 42, 1983

Compiled by Virginia Tanji and John Hoover of Hawaii Medical Library

Title Keyword Index

Addicts. Pregnant addicts and health care, 42:170

Adolescents. Adolescents in residential treatment, Hawaii, 1973-1978, 42: 372

Ambulance. Respiratory emergencies in ambulance services —Oahu, 1978-79, 42:114

Anemia. Aplastic anemia and quinidine, 42:402

Aspiration. Aspiration pneumonia: a medical emergency, 42:48

Brodsky, Mike. In Memoriam: Mike Brodsky and the Medical School, 42:86

Cancer. Improved community colorectal cancer control, Kauai, 42:200

Is fibrinogen a marker of cancer progression?, 42:364

Prostate cancer: the paradox of early diagnosis, 42:34

Cardiomyopathy. Dilated cardiomyopathy in Hawaii, 42:60

Ciguatera. The epidemiology of ciguatera fish poisoning in Hawaii, 1975-1981, 42:326

Clinical Pathologist's Easy Chair. Creatinine, 42:174

Iron deficiency and serum ferritin, 42:68

Tests for syphilis, 42:388

Colorectal. Improved community colorectal cancer control, Kauai, 42:200

Congenital. Congenital diaphragmatic hernia—an eight-year experience in Hawaii, 42:400

Depressive. The dexamethasone suppression test in depressive illness, 42: 144

Dexamethasone. The dexamethasone supression test in depressive illness, 42:144

Diaphragmatic. Congenital diaphragmatic hernia—an eight-year experience in Hawaii, 42:400

Directory. 1983-84 directory of Hawaii physicians, 42:216

Editorials. The individual physician's role and the sanctions of TEFRA, 42: 536

The pot of gold, 42:342

Quackery (reprint), 42:168

Rabies, 42:58

Electrocardiogram. In-flight transtelephonic electrocardiogram transmission, 42:22

Emergencies. Respiratory emergencies in ambulance services —Oahu, 1978-79, 42:114

Erythropoietin. Serum erythropoietin levels in neonatal polycythemia, 42: 428

Ethnic. Ethnic differentials in health in Hawaii, 42:90

Fetal. Comparison of methods to estimate fetal lung maturity, 42:8

Fibrinogen. Is fibrinogen a market of cancer progression?, 42:364

Fish. The epidemiology of ciguatera fish poisoning in Hawaii, 1975-1981, 42: 326

Hawaii. Samoan patterns in seeking health services—Hawaii, 1979-81, 42: 138

Health. Ethnic differentials in health in Hawaii, 42:90

Health services. Samoan patterns in seeking health services—Hawaii, 1979-81, 42:138

Heart. Clinical usefulness of the first heart sound (with a new diagnostic finding), 42:40

Hematologic. Hematologic disorders unique to Hawaii, 42:20

Hernia. Congenital diaphragmatic hernia—an eight-year experience in Hawaii, 42:400

HMA. 1982 HMA meeting, 42:70

Index. Index to Hawaii Medical Journal, volume 41, 42:74

Infant. Variation in infant mortality rates among census tracts in Hawaii, 42:414

Kauai. Improved community colorectal cancer control, Kauai, 42:200

Laparotomy. Tubal ligation and minilaparotomy in an outpatient setting, 42:156

Latrodectus. Latrodectus spider bites in Hawaii, 42:426

Law. The indentations of law and psychiatry, 42:190

Lung. Comparison of methods to estimate fetal lung maturity, 42:8

Marker. Is fibrinogen a marker of cancer progression?, 42:364

Medical history in the Islands. Medical libraries in Hawaii, 42:381

Military hospitals, 42:50

Melanoma. Malignant melanoma of the vagina in a black woman, 42:406

Mortality. Variation in infant mortality rates among census tracts in Hawaii, 42:414

Neonatology. Neonatology—a distressed newborn, 42:135

Oxygen. Vitamin E and oxygen toxicity in adult rats, 42:160

Parenteral nutrition. Dabbling in parenteral nutrition, 42:106

Physicians. 1983-84 directory of Hawaii physicians, 42:216

Platelet. Platelet satellitism in L.E. preparation, 42:363

Pneumonia. Aspiration pneumonia: a medical emergency, 42:48

Poisoning. The epidemiology of ciguatera fish poisoning in Hawaii, 1975-1981, 42:326

Polycythemia. Serum erythropoietin levels in neonatal polycythemia, 42: 428

Post-traumatic. Post-traumatic stress disorder, 42:166

Pregnant. Pregnant addicts and health care, 42:170

Continued on page 26

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Index to Vol. 42

Continued from page 25

President's message.
Cost-containment, 42:57
(Legislature), 42:33
(Malpractice insurance), 42:7
Hawaii State Medicaid program, 42:105
In appreciation, 42:322
Injuries, disabilities, and insurance (or where did all the farmer go?), 42:186
Malpractice awards, 42:81
Politics, 42:131
So you want to be a doctor, 42:154
A time to evaluate and direct your association, 42:154
Workers' compensation, 42:81
Prostate. Prostate cancer: the paradox of early diagnosis, 42:34
Psychiatry. The indentations of law and psychiatry, 42:190
Quarantine. Cost effectiveness of Hawaii's anti-rabies quarantine program, 42:157
Quinidine. Aplastic anemia and quinidine, 42:402
Rabies. Cost effectiveness of Hawaii's anti-rabies quarantine program, 42:157
Residential. Adolescents in residential treatment, Hawaii, 1973-1978, 42:372
Respiratory. Respiratory emergencies in ambulance services —Oahu, 1978-79, 42:114
Samoan. Samoan patterns in seeking health services—Hawaii, 1979-81, 42:138
Spider. Latrodectus spider bites in Hawaii, 42:426
Stress. Post-traumatic stress disorder, 42:166
Toxicity. Vitamin E. and oxygen toxicity in adult rats, 42:160
Transtelephonic. In-flight transtelephonic electrocardiogram transmission, 42:22
Tubal. Tubal ligation and mini-laparotomy in an outpatient setting, 42:156
Vagina. Malignant melanoma of the vagina in a black woman, 42:406
Vitamin E. Vitamin E and oxygen toxicity in adult rats, 42:160

Author Index

Anderson BS, 42:326
Arnold HL Jr, 42:58
Bauman PM, 42:60
Boychuk RB, 42:400
Brandon V, 42:372
Bussey G, 42:166
Canete D, 42:22
Chun BH, 42:8
Cody WJ, 42:190
Cook JM, 42:138
Drorbaugh J, 42:135
Easa D, 42:135
Elizaga FV, 42:402
Fergusson DJ, 42:60
Fleming P, 42:406
Fukunaga F, 42:68
42:174
42:388
Gooch JM, 42:157
Haas M, 42:90
Hale RW, 42:8
Hall TC, 42:200
Hara K, 42:22
Hariharan A, 42:34
Herron S, 42:406
Hoover J, 42:74
Hurlbutt FR, 42:156
Ikeda M, 42:114
Jim RT, 42:20
42:20
42:363
Judd CS Jr, 42:50
42:356
42:381
Kam B, 42:364
Kam CC, 42:7
42:33
42:57
42:81
42:81
42:105
42:131
42:322
42:154
42:154
42:186
Kipnis K, 42:135
Kosasa TS, 42:8
Light MJ, 42:8
Lumeng J, 42:48
Mariani AJ, 42:34
Markoff RA, 42:144
Massey DG, 42:48
McNamara JJ, 42:160
Mencken HL (reprint), 42:168
Miller R, 42:200
Nakayama RT, 42:8
Nelson JA, 42:400
Oishi N, 42:364
Oishi S, 42:364
Pang DK, 42:402
Pettett PG, 42:428
Rawlings JS, 42:428
Reeve R, 42:40
Reppun JI, 42:342
Rogers TA, 42:86
Rose L, 42:170
Sakai FJ, 42:40
Sasaki DM, 42:157
Scottolini AG, 42:426
Simpson SP, 42:414
Sims JK, 42:114
42:326
Smith SB, 42:106
Spangler J, 42:156
Stams UK, 42:34
Stein J, 42:406
Sugi M, 42:326
Sutherland NG, 42:200
Swingle K, 42:406
Syed N, 42:406
Tanji V, 42:74
Timtim JK, 42:160
Tom C, 42:34
Uemura HS, 42:8
Weinstein SR, 42:426
Wiebenga NH, 42:326
Wiswell TE, 42:428
Yamashiro CH, 42:406
Yates K, 42:400

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VOL. 43, NO. 2

Hawaii Medical Journal

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CONTENTS

Continuing Medical Education 33

HMA House of Delegates Actions, 127th Annual Meeting, Summary 34

HMA Annual Meeting—Photo Montage 35

HMA Council Meeting Highlights 42

Book Review 42
John H.C. Kim, M.D.

News and Notes 44
Henry N. Yokoyama, M.D.

DRGs and Medical Care— 48
A Message from the Medical Society of Delaware

HMA Auxiliary 50

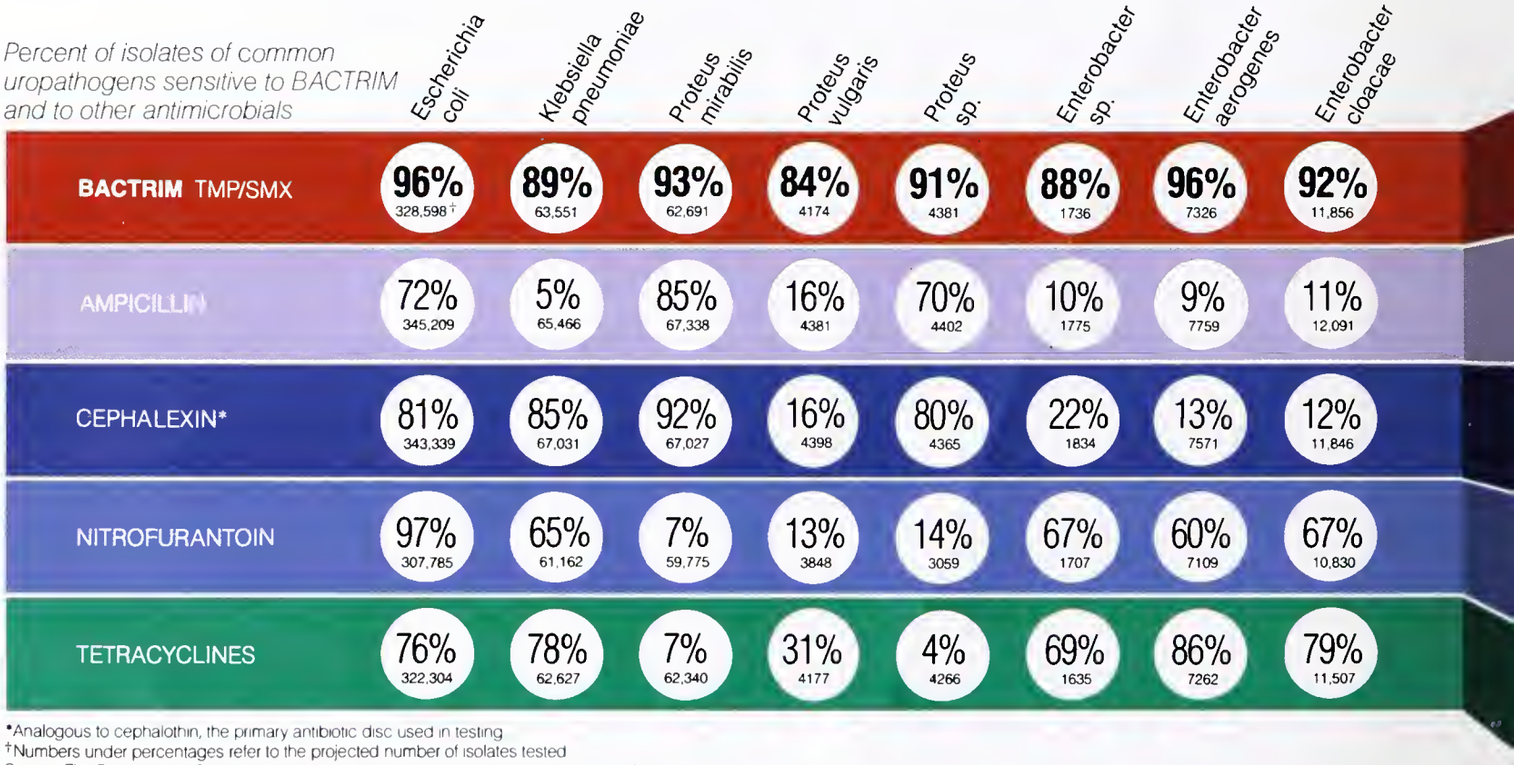
Letter to the Editor 50

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Bactrim™ excels
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More urinary tract isolates prove sensitive *in vitro*



*Analogous to cephalothin, the primary antibiotic disc used in testing.
†Numbers under percentages refer to the projected number of isolates tested
Source: The Bacteriologic Report, BAC-DATA Medical Information Systems, Inc., Winter Series 1981-82.

More studies show a lower incidence of bacteriologic recurrence

Patients treated with Bactrim have often remained free of recurrence longer than comparable patients treated with other drugs. In one study, 87 "difficult" patients, 76% of whom were infected with *E. coli*, were treated with Bactrim or cephradine.[1] Although the differences were not statistically significant, the cure rates with Bactrim were 85.4% at two weeks and 72.5% at six weeks, compared to 69.8% and 56%, respectively, with cephradine.

In a study of 93 women treated with either Bactrim or cephalexin for *E. coli* or *Proteus mirabilis* infections,[2] the cure rate six weeks after the course of treatment remained significantly higher with Bactrim than with cephalexin (84.6% vs. 58.5%).

Bactrim is indicated for the treatment of recurrent urinary tract infections due to susceptible strains of *Escherichia coli*, *Klebsiella-Enterobacter* and the *Proteus* species. However, it is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single antimicrobial agent rather than the combination.

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recurrent urinary act infections

More positive clinical results

Comparative studies of BACTRIM and other agents used in urinary tract infections

Reference	Number of Patients	Therapy	Dosage	Type of Study	Results
Cooper, Brumfitt, Hamilton-Miller[1] (1980)	41 43	Bactrim cephradine	160 mg trimethoprim & 800 mg sulfamethoxazole *t.i.d.* 500 mg *q.i.d*	Randomized comparison	Cure rate with Bactrim = 85.4%; with cephradine = 69.8% after two weeks
Gower, Tasker[2] (1976)	46 47	Bactrim cephalexin	160 mg trimethoprim & 800 mg sulfamethoxazole *b.i.d* 1000 mg *b.i.d.*	DB	Cure rate with Bactrim = 96%; with cephalexin = 68% two weeks after therapy
Cosgrove, Morrow[3] (1974)	15 15	Bactrim ampicillin	160 mg trimethoprim & 800 mg sulfamethoxazole *b.i.d.* 500 mg *q.i.d.*	DB	Bactrim proved more effective in uncomplicated chronic UTI
Iravani *et al*[4] (1981)	64 71	Bactrim nalidixic acid	160 mg trimethoprim & 800 mg sulfamethoxazole *b.i.d* 1 Gm *q.i.d.*	Randomized comparison	Cure rate with Bactrim = 93%; with nalidixic acid = 90% one week after therapy
Schaeffer, Flynn, Jones[5] (1981)	20 20	Bactrim cinoxacin	160 mg trimethoprim & 800 mg sulfamethoxazole *b.i.d* 500 mg *b.i.d.*	Randomized comparison	Both agents equally effective

References: 1. Cooper J, Brumfitt W, Hamilton-Miller JMT. *J Antimicrob Chemother* 6:231-239, 1980. **2.** Gower PE, Tasker RW. *Br Med J* 1:684-686, Mar 20, 1976. **3.** Cosgrove MD, Morrow JW. *J Urol* 111:670-672, May 1974. **4.** Iravani A *et al*. *Antimicrob Agents Chemother* 19:598-604, Apr 1981. **5.** Schaeffer AJ, Flynn S, Jones J. *J Urol* 125:825-827, Jun 1981. **6.** Kramer MJ, Mauriz YR, Robertson TL, Timmes MD. Morphological studies on the effect of subinhibitory and inhibitory doses of a sulfamethoxazole-trimethoprim combination on *Escherichia coli*. Presented at the 12th International Congress of Chemotherapy, Florence, Italy, July 19-24, 1981.

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Bactrim™ DS

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Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris, Proteus morganii.* It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, hepatocellular necrosis, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

Pregnancy: Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, hepatocellular necrosis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: *Not recommended for infants less than two months of age.*

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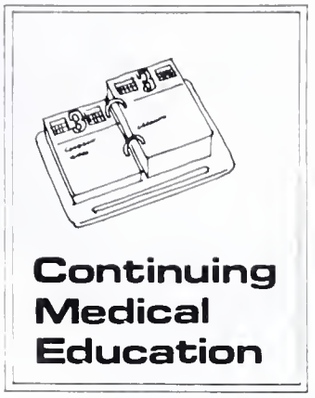
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Continuing Medical Education

CALENDAR OF ACCREDITED EVENTS—CATEGORY I

Accredited Programs of CME allow one unit of AMA credit for each hour of instruction excluding all "breaks." Some programs also are accredited for AAFP prescribed credit.

LOCAL ACCREDITED PROGRAMS

ONGOING

For a complete list of ongoing programs, please refer to the September 1983 issue of the HAWAII MEDICAL JOURNAL. Further information is available through the individual institutions or through the HMA's CME Department.

SPECIAL EVENTS

Feb. 2-9, 1984	Pan American Conference on Fertility and Sterility, U.S. International Foundation for Studies in Reproduction, Inc., 112-44 69th Avenue, Forest Hills, N.Y. 11375. At: Kona, Hawaii.
Feb. 2-11, 1984	Post-graduate Course in Infertility and Reproductive Endocrinology, U.S. International Foundation for Studies in Reproduction, Inc., 112-44 69th Avenue, Forest Hills, N.Y. 11375.
Feb. 3-7, 1984	Advanced Seminar for Physicians, Administrators, and Trustees, Estes Park Institute, Box 400, Englewood, Colo. 80151. At: Molokai, Hawaii.
Feb. 4-10, 1984	Perinatal Medicine, University of Southern California School of Medicine, Post-graduate Division, KAM 320, 2025 Zonal Avenue, Los Angeles, Calif. 90033, (213) 224-7047. To be held at the Royal Lahaina Hotel on Maui, Hawaii.
Feb. 11-18, 1984	A Course in Otolaryngic Allergy, American Academy of Otolaryngic Allergy, Director of Extramural Education, 1101 Vermont Avenue, N.W., Suite 302, Washington D.C. 20005. At: Kona, Hawaii.
Feb. 11-18, 1984	4th Conference on Intensive Care Medicine, Ohio State University, Dept. of Anesthesiology, 410 W. 10th Avenue, Columbus, Ohio 43210, (614) 421-8487. At: Royal Hawaiian Hotel (Honolulu) on Oahu and Hilton Hotel (Kona) on the Big Island.
Feb. 14-17, 1984	Cardiology Update, Straub Clinic & Hospital, 888 S. King Street, Honolulu, Hawaii 96813, (808) 523-2311, Ext. 8152. Contact: Institute for Medical Studies, Kim Stroich, 14761 Franklin Avenue, Suite A, Tustin, Calif. 92680, (714) 832-2650. At: Hilton Hawaiian Village, Honolulu, Hawaii.
Feb. 16-18, 1984	Advanced Fetal Heart Rate Monitoring, Memorial Hospital Medical Center and UCI. Contact: Assistant Director, Center of Health Education, 2801 Atlantic Avenue, Long Beach, Calif. 90801-1428. At: Sheraton Waikiki, Honolulu, Hawaii.
Feb. 18-24, 1984	12th Obstetric Anesthesia Conference. Contact: Ohio State University Hospital, Dept. of Anesthesiology, 410 W. 10th Avenue, Columbus, Ohio 43210, (614) 421-8487.
Feb. 23-24, 1984	American College of Physicians 1984 Regional Meeting. Contact: Robert A. Nordyke, M.D., FACP, 2013 Kakela Drive, Honolulu, Hawaii 96822. At: Ala Moana Americana Hotel, Honolulu, Hawaii.
Feb. 25-March 3, 1984	Recent Advances in Cardiology—Annual Meeting, Contact: Yvonne Brewer, 1188 Bishop Street, Suite 3411, Honolulu, Hawaii 96813, (909) 524-3540, (808) 523-3900. At: The Lodge at Vail, Colorado.
March 11-18, 1984	Kidney Disease Course, University of Colorado Health Sciences Center, Office of Post-graduate Medical Education, Campus Box C295, 4200 East 9th Avenue, Denver, Colo. 80262, (303) 394-5241 or 394-5195. To be held on Maui.
March 12-16, 1984	University of Hawaii Sports Medicine Course. Contact: Joy Lewis, Box H-CCECS, 2530 Dole Street, Honolulu, Hawaii 96822, (808) 948-8244. At: Princess Kaiulani Hotel, Honolulu, Hawaii.
March 15-17, 1984	Mid-Life Issues, Hawaii Psychiatric Society and Area VII of the American Psychiatric Association. For further information call D. Chang, (808) 947-8573. To be held at the Maui Inter-Continental Hotel, Maui, Hawaii.
March 16-23, 1984	The Spine, University of Washington, Continuing Medical Education, Health Sciences Center D-303, Seattle, Wash. 98195, (206) 543-1050. To be held at the Westin Wailea Beach Hotel, Maui, Hawaii.
March 17-24, 1984	Update in Obstetrics and Gynecology, University of Washington School of Medicine, Health Sciences Center, E-303, Seattle, Wash. 98195, (206) 543-1050. At: Sheraton Kauai, Kauai, Hawaii.
March 19-23, 1984	21st National Conference on Breast Cancer. Contact: Breast Cancer Conference, American College of Radiology, 6900 Wisconsin Avenue, Chevy Chase, Md. 20815, (301) 654-6900. At: Sheraton Waikiki, Honolulu, Hawaii.
March 24-31, 1984	The Injured Patient—Controversies and Challenges. Contact: University of Washington School of Medicine, Health Sciences Center, E-303, Seattle, Wash. 98195, (206) 543-1050. At: Sheraton Kauai, Kauai, Hawaii.
March 31-April 7, 1984	High-risk Infants and Adolescents. Contact: University of Washington, School of Medicine, Health Sciences Center, E-303, Seattle, Wash. 98195, (206) 543-1059. At: Hotel InterContinental Maui, Wailea, Maui, Hawaii.
April 5-7, 1984	Freestanding Emergency Centers and Convenience Clinics: Planning, Development and Management. Contact: American Hospital Association, Division of Ambulatory Care, 840 North Lake Shore Drive, Chicago, Ill. 60611, (312) 280-6461. At: Honolulu, Hawaii.
April 29, 1984	Hawaii Asthma Allergy Symposium—1984, The Hawaii Asthma Camp, (808) 537-6954, 1710 Pali Highway, Honolulu, Hawaii 96813. At: Westin Ilikai Hotel, Honolulu, Hawaii.

Summary of House of Delegates Actions—

127th Annual Meeting of the Hawaii Medical Association
October 8-10, 1983

The Hawaii Medical Association House of Delegates met October 8-10, 1983, at the Intercontinental Hotel, Wailea, Maui, to consider the annual reports of committees and commissions, reports of the leadership, and resolutions submitted by the membership as a whole. Three reference committees were appointed to hear testimony on the reports from all interested members. The reference committees presented their recommendations to the House on Monday, October 10, 1983.

The opening session of the House was called to order by President **Calvin C.M. Kam.** Those present were: Drs. **Sakae Uehara, Russell Stodd, William Hindle, Nadine Bruce, Robert Irvine, Paul Esaki, Robert Harrison, Philip Hellreich, James Lumeng, Stephen Wallach, Thomas Au, Nancy Edwards, Neal Winn, Henry Fong, Herbert Uemura, Arch Wigle, Peter Kim, Robert Laird, William Iaconetti, Thomas Cahill, Richard Ando, Harry Arnold Jr., J. Alfred Burden, William Dang, George Goto, Marion Hanlon, Thomas Chen, Ben Hur, A. Scott Miles, William Goodhue, Andrew Don, William Kepler, Mahood Mirzai, Helen Percy, Robert Young, Nathaniel Ching, Doris Jasinski, Carl Lehman, Russell Hicks, Yoshio Oda, Fred Reppun, John Spangler, James Stewart, William Wong, Jorge Camara, Edward Chesne, H.H. Chun, Victor Dizon, Charlotte Florine, Reuben Guerrero, Willard Miyahira, Lily Ning, Young Paik, Don Parsa, Walter Quisenberry, Niranian Rajdev, Robert Sitkin, Raymond Tamura, Patrick Walsh, Henry Yokoyama, Joseph Young, Gladys Fryer, E. Lee Simmons, Deborah Putnam, John Drouilhet, Mary Flynn, Leonard Howard, Ken Murayama.** Also present were: Legal Council V. Thomas Rice, Auditor Dave Riley, and AMA President Dr. **Frank B. Jirka.**

The following reports are adopted:

BYLAWS: Amendments adopted included incorporating speaker and vice speaker as elected officials of the HMA. The speaker shall preside at all meetings of the House of Delegates, vote when the vote is by ballot, otherwise only in the case of a tie, perform such duties as custom and parliamentary usage require. The vice speaker shall officiate for the speaker in the latter's absence or at the request of the speaker. The speaker and vice speaker shall be ex-officio members of the HMA Council and have the privilege of the floor without a vote. Other amendments to the bylaws relating to the functions of the Nominating Committee and the order of election of officers was adopted.

The meeting was turned over to Speaker of the House Dr. **Thomas Cahill**, who then presided for the remainder of the meeting as well as the closing session of the House.

TREASURER: Recommendations adopted were: that dues for 1984 be set at $465 per member; Alexander Grant & Co. approved as HMA's auditors for 1984; that a reverse fund be established; and that an amended balanced budget set at $756,050 was approved. The budget amendment included deleting income line item fee survey, $300; reducing under expenses the same amount for line item, stationery/printing in accordance with a previous House action to promote the use of the AMA's CPT-4 and approval of a recommendation that HMA cease duplication of the 1970 Hawaii Relative Value Studies. That a copy of the 1970 RVS be kept on file in the HMA offices; however, all distribution and duplication should cease and the file document not be removed from the office.

COMMUNITY RESEARCH BUREAU: The report of the Community Research Bureau (CRB) was adopted with the following two recommendations: CRB be continued as a 501(C)(3) organization of the HMA; and that referral be made by council to the Insurance Committee for investigation and development of a plan for alternative solicitations of contributions for specific and general educational, charitable, and scientific programs.

HAMPAC: HAMPAC Report and budget of $500 for its educational fund.

RULES COMMITTEE: The modus operandi was revised to allow the Nominating Committee to present the slate of nominees to the opening session of the House and conduct the election to all elective offices as the first order of business upon convening the House on Monday, October 10, 1983. The Reference Committee on Finance and Administration to be presented as the first Reference Committee Report.

HMA AUXILIARY: Beginning 1984 the HMA Auxiliary (HMAA) and each county auxiliary will conduct business on a January 1 to December 31 schedule. The HMAA report covered the major activities for 1983 which were: legislation, membership, health projects (drunk driving issues), and In Memoriam.

HAWAII MEDICAL JOURNAL EDITOR'S report and recommendation that the HMA Journal continue publication on the same basis as in the past.

AMA DELEGATES: The report of the AMA delegates and the following recommendations: (1) **George H. Mills,** M.D., former AMA Trustee, be given the highest vote of thanks and commendation for his involvement, participation, and representation at the AMA; (2) because the HMA is now without an HMA member on the AMA Board of Trustees to keep us informed and to take back concerns and Hawaii's input, that the delgates to the AMA accompany the HMA president and his/her visitations to constituent societies to present information and issues and to receive input on concerns to the AMA; (3) that additional monies be included in the budget for travel expenses for the AMA delegate(s) ($500 for one or $1,000 for two) to accompany the HMA president on official visits to constituent societies.

PRESIDENT: President Dr. **Calvin C.M. Kam** outlined the following concerns and recommendations: (1) the entire bylaws should be reviewed, re-organized, and revised; (2) the association should participate with an organization of the chiefs of medical staffs of the various hospitals to share mutual hospital problems. This committee, in turn, should send a representative to the AMA Medical Hospital Staff section to improve communication and develop better ways to organize medical staffs for patient care in hospitals; (3) efforts should continue through the Workers' Compensation Committee to communicate with the insurance industry and legislators to improve workers' compensation laws. Unions also should be involved so that medical concerns can be discussed and appreciated. Efforts should be with a desire to improve communication and understanding between the various professional groups, industry, and society; and (4) the Health Care Cost Committee was inactive this year, but this committee must be activated. Part of the work could be done by

Continued on page 36

Photos from HMA's Annual Meeting



Nadine Bruce, outgoing president of the Honolulu County Medical Society, greeting AMA President Frank Jirka. Tom Cahill, speaker-of-the-house, in obseisance.



Mrs. Calvin Kam presents a lei to Dr. Sakae Uehara as he is being installed as HMA president. Dr. Frank Jirka at the mike.







Dr. John Withers of Maui receiving the Physician-of-the-Year award, with staffer Jennie Asato presenting the lei and Out-going President Calvin Kam supervising.



Asst. Exec. Director Becky Kendro and new HMA President Uehara in a moment of earnest discussion. In the background are Exec. Director of the HMA Jon Won, HMA Staffer Marilyn Lindsey, and Dr. Bill Hindle, president-elect of the HMA.



Becky Kendro watches as Dr. Robert Laird, runner, gets his award. (Who belongs to those extra arms we couldn't find out!)

Some of our worthy HMA staff, enjoying a night off: Cheryl Sugita, Lourene Aguiar, Diane Matsunaga, and Irene Wong.

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Continued from page 34

the Hospital-Medical Staff Committee since the primary increase in costs comes from hospital care.

COMMISSION ON ADMINISTRATIVE SERVICES included reports of A&T Printing, Inc., Building Committee and Budget, and Pension.

A&T Printing, Inc., moved to larger, more productive, less expensive office space. Projected deficit at year's end should be around $5,000 compared to a deficit of $40,000 for 1982. A&T's Chairman of the Board Dr. **John Kim** recommends that the HMA continue to provide the leadership and services of A&T Printing, Inc., for the coming year.

Building and Building Budget: With HMA assuming a large number of the duties relevant to the management of the property over the past six months, a number of deficiencies have been corrected, occupancy is at plus 92%, and anticipated 100% occupancy by the end of 1983. The 1984 budget, with income of $226,800, total expenses of $302,590, and leaving a net decrease of ($75,790), was approved.

HAWAII FOUNDATION FOR MEDICAL CARE report listed the following recommendations: (1) HMA plan proposal for PRO contract; (2) HMA develop a subsidiary modeled after EMS to operate the PRO; (3) HMA adopt the position that: (a) HMA objects to arbitrary area designation combining Hawaii, Guam, Micronesia, and Samoa, and feels that the state of Hawaii should be a single PRO area; (b) that this objection, however, shall not necessarily preclude a compromise; and (4) HMA Council start mechanisms to form PRO forthwith. The Hawaii Foundation for Medical Care make available up to $1,925 to HMA for the above purposes.

HAWAII TUMOR REGISTRY, INC., continues to provide for the collection of cancer data for this community. HTR relocated to space offered by and provided in the Cancer Center of Hawaii, 1236 Lauhala Street, which reflects the 1982 House of Delegates recommendation that more suitable space be acquired for HTR. HTR will continue to be overseen by HMA and the HMA Cancer Commission.

BUREAU OF RESEARCH AND PLANNING recommends that the bureau continue to be available as a sounding board of issues, projects, and programs for the HMA; and continue to be available to the HMA Council for referral of issues.

COMMISSION ON COMMUNITY AND PROFESSIONAL RELATIONS: The Health Manpower Committee was directed to monitor closely the actions of allied medical professionals who seek licensure statutes. The HMA/HMSA *ad hoc* committee should take a more assertive position with regard to the problems identified, and that the committee seek direction from the HMA Council and all component medical societies for agenda items. The report of the Continuing Medical Education Committee recommended: (a) implementation of the "seven essentials" by the participating institutions as required by ACCME, (b) devise an appeals process, (c) provide guidelines to the institutions for record-keeping of physician attendance and evaluation forms.

The MD/RN Committee became a standing committee reporting directly to the council. The report of the Medical, Ethical, Moral, and Legal Concerns Committee recommended continuation of the monitoring and educating of the community on living wills, and to continue communication with other states and hospitals. Future discussions should include hospital ethics committees, critical problems revolving on the question of resources, and review of the Presidential Ethic's Commission Report.

The Business/Medicine Coalition should continue in its *ad hoc* status for the coming year to deal with other health issues of particular concern to the business community. The Hawaii Health Institute should retain its status as an *ad hoc* committee to oversee the Program for Affordable Health Care and to consider other health issues of concern to its community representatives.

COMMISSION ON PUBLIC HEALTH: The work of the Chronic Illness and Aging Committee should continue in accord with its broad goals. The Crippled Children Committee will continue to act in an advisory capacity to the Crippled Children Branch of the Department of Health. The Disaster Committee will be continued to provide coordination with the Honolulu County Medical Society and other component societies or hospital disaster committees where applicable. The Jail Health Committee will be continued in view of the numerous problems in correctional institutions.

The Sports Medicine Committee recommended that HMA should recommend to the Department of Education that several athletic trainers be hired to provide care to all the high schools; and HMA should recommend that all coaches throughout the state be encouraged to attend the educational symposium on football injuries presented by the HMA Sports Medicine Committee and that materials and information be available to Neighbor Island coaches or team physicians when requested. The budget for the committee to be $200.

The Substance Abuse/Pharmacy Committee be directed to consider ways in which problems associated with impaired physicians could be handled on a statewide rather than county basis; and the Substance Abuse/Pharmacy Committee consider its scope of functions, with the committee being divided into two separate committees, one for problems associated with alcoholism and substance abuse, and the other for matters relating to pharmacy and formulary problems.

The School Health Committee will continue to work with the Department of Health and the Department of Education in matters of school health.

The Cancer Commission will continue, with HMA, to oversee the activities of the Hawaii Tumor Registry. A special commendation was given to Dr. **Drake Will** for his excellent work as chairman for a number of years of the Cancer Commission. The Cancer Commission continues as a forum for discussions of a number of timely topics on the care of cancer patients. Approval was received from the Department of Health and Human Services as one of 59 Community Clinical Oncology Programs in the country.

COMMISSION ON SOCIO-ECONOMICS: The Fee Survey Committee should continue with regular and timely updating, with emphasis on gathering information on new procedures; consider the means by which fee survey information can be made available to the membership; the Executive Committee provides guidelines as the scope of problems the committee should address, reassessing the functions and objectives.

The Health Care Costs Committee should be an active ongoing committee with membership from various agencies; the chair of committee should sit as a member of the Steering Committee of Hawaii's Program for Affordable Health Care as well as the Hawaii Health Institute and Business/Medicine Coalition to provide liaison.

The Block Grant Committee should be continued to assist Neighbor Islands in their request for block grant funds.

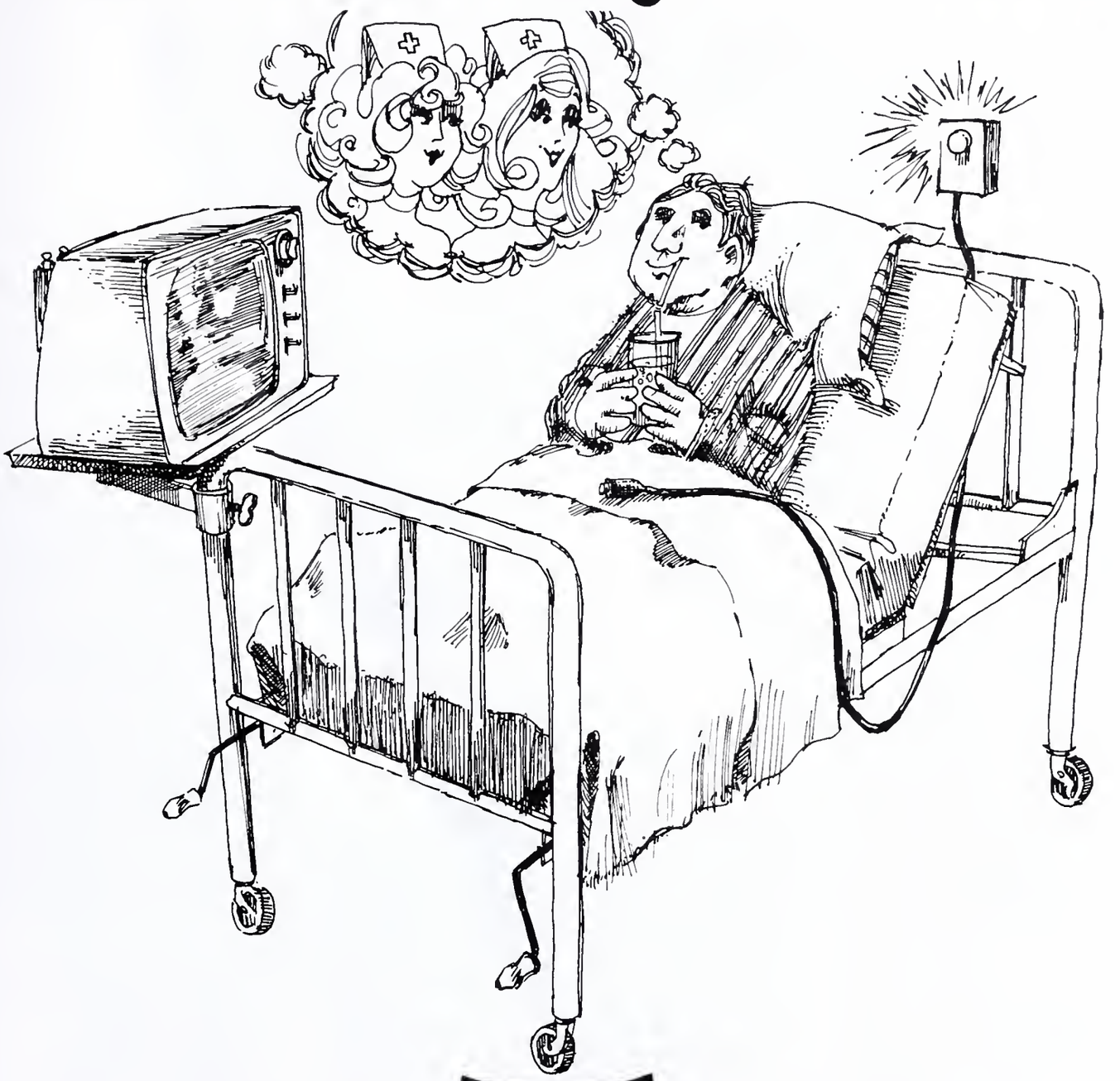
The work and efforts of the Medicaid Committee in fostering closer working relationship with DSSH was noted and commended by the House and will continue its active participation with the legislature and DSSH regarding the Medicaid program. Discussions will be held by the Workers' Compensation Committee in regard to the new AMA Guide to the Evaluation of Permanent Physical Impairment.

COMMISSION ON LEGISLATION: The Legislation Committee shall continue its present format with Becky Kendro as staff executive and lobbyist, and the committee continue its extensive lobbying and testifying at the legislature. The Medical Malpractice Law Committee recommended: (1) to maintain its watchdog role in monitoring the status of the Patients' Compensation Fund to insure its continued viability; (2) review Act 219 for any changes; and (3) consult, share information, and discuss common problems with other states with similar medical malpractice laws and Patients' Compensation Funds.

COMMISSION ON MEMBERSHIP SERVICES: The Insur-

Continued on page 38

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Hawaii Medical Service Association

HMA House of Delegates
Annual Meeting Summary
Continued from page 36

ance Committee shall continue to evaluate and monitor all of the insurance programs for the membership. The Membership Benefits Committee will review and re-evaluate the current and future membership benefits portfolio. The Publications Committee recommended: (1) that Dr. Harry L. Arnold Jr. continue as editor of the Hawaii Medical Journal; (2) that Crossroads Press, Inc., continue as publisher of the HMJ; (3) subscription rates for 1984 will be: HMA members, $10; non-members, $15; HMA student resident members, $10 (increase of $5); and non-member student/resident, $15 (increase of $5); (4) HMA accepted the proposal from Crossroads Press for publication of the 1984 and 1985 directories; and (5) that non-members again be invited to purchase space for a listing in the directories at a charge of $35 (increase of $10 from 1982 and 1983). The TV-Radio Committee will continue its liaison and participation in KHET's "Body Talk" program.

COMMISSION ON PEER REVIEW: The Peer Review Committee will continue to update the physician volunteer lists from all component societies to submit to the Board of Medical Examiners for the Medical Advisory Committee and the Medical Claims Conciliation panels.

Resolutions Adopted

Resolution No. 1 (Re: Cigarette Smoking)

Resolved that Hawaii Medical Association urge all physicians to either ban smoking from their offices or establish smoking/no smoking sections in their offices; and be it further

Resolved that the Hawaii Medical Association adopt as policy the ban on smoking at all HMA meetings including committee meetings, meetings of the council, meetings of the House of Delegates, and continuing medical education conferences sponsored by HMA.

Resolution No. 4 (Re: Health Care to Indigent Children)

Resolved that no child be denied access to health care services for economic reasons, and be it further

Resolved that the National Child Health Goals of the American Academy of Pediatrics be promoted.

Resolution No. 5 (Re: Commending Physicians Involved in Educational Efforts on Behalf of Their Patients)

Resolved that the House of Delegates of the Hawaii Medical Association at its 127th annual meeting commend the efforts of those physicians involved in educating all physicians and their patients to the terrible medical consequences of a nuclear confrontation between nations, and be it further

Resolved that the council of the HMA actively promote programs that will encourage not only HMA members but all physicians in the state of Hawaii to become knowledgeable in this important issue.

Resolution No. 6 (Re: Private Quarantine Kennels on Neighbor Islands)

Resolved that the HMA encourage the state legislature to approve private quarantine kennel facilities on the neighbor islands.

Resolution No. 12 (Re: State Hospital Based Physician Contracts)

Resolved that the Hawaii Medical Association express its concerns over the apparent lack of rights of physicians contracting with the county/state hospital system, and be it further

Resolved that the Hawaii Medical Association strongly encourage the county/state hospital system to amend its contracts with its hospital-based physicians to include termination of contract only with cause and that due process be guaranteed for any and all disputes, and be it further

Resolved that the minimum term of the contract should be for the period of 2 years with timely renegotiations.

Resolutions Referred

Resolution No. 2 (Re: Medical Students and Resident Members on Council and Committees)—referred to HMA council:

Resolved that the HMA amend its bylaws to provide for a seat on the HMA Council for a student member and a resident member, and be it further

Resolved that the Hawaii Medical Association amend its bylaws to provide for appointment of qualified medical student and resident members to appropriate committees, and be it further

Resolved that in the interim until such bylaws changes are adopted, that the HMA president appoint a medical student representative and a resident member representative to sit in on the HMA Council meetings, and be it further

Resolved that committee chairmen of HMA committees be strongly urged to recommend qualified medical student and resident members for appointment to their respective committees.

Resolution No. 8 (Re: Use of Physician Support Personnel in Ophthalmology)—referred to the HMA Legislative Committee:

Resolved that the Hawaii Medical Association investigate the apparent discrimination as contained in Hawaii Revised Statutes Chapter 459-1 and 453-2(4) regarding the use of physician support personnel, and be it further

Resolved that the HMA Legislative Committee be instructed to prepare legislation to correct this apparently discriminatory and untenable situation in the next session of the Hawaii State Legislature.

Resolution No. 9 (Re: Hospital Medical Staff Relationships)—referred to the HMA president:

Resolved that HMA House of Delegates instruct the HMA president to establish a standing committee on Hospital/Medical Staff Relations as soon as possible.

AMA Report

Report D of AMA Council for Medical Services, re: Payment for Physicians' Services, recommends:

(1) That the Hawaii Medical Association inform the AMA that its House of Delegates can support AMA policy that includes indemnification as one of several acceptable reimbursement mechanisms under the basic fee-for-service concept; and (2) That the delegates to the Hawaii Medical Association recommend to the AMA Board of Trustees and the AMA House of Delegates that they not change the AMA policy of supporting the concept of Usual, Customary, and Reasonable until alternatives are identified and the AMA House of Delegates debate the merits of these alternatives.

The following reports were filed: Hawaii County Medical Society, Honolulu County Medical Society, Kauai County Medical Society, Maui County Medical Society, West Hawaii Medical County, Executive Director, Secretary, EMS, Pension, Arrangements Committee, Scientific Program, Media Response Committee, Maternal, Perinatal Mortality Study Committee, Communicable Disease Committee, Public Safety Committee, Community Health Centers Committee *ad hoc*, Public Affairs, and Alternate Health Care Committee.

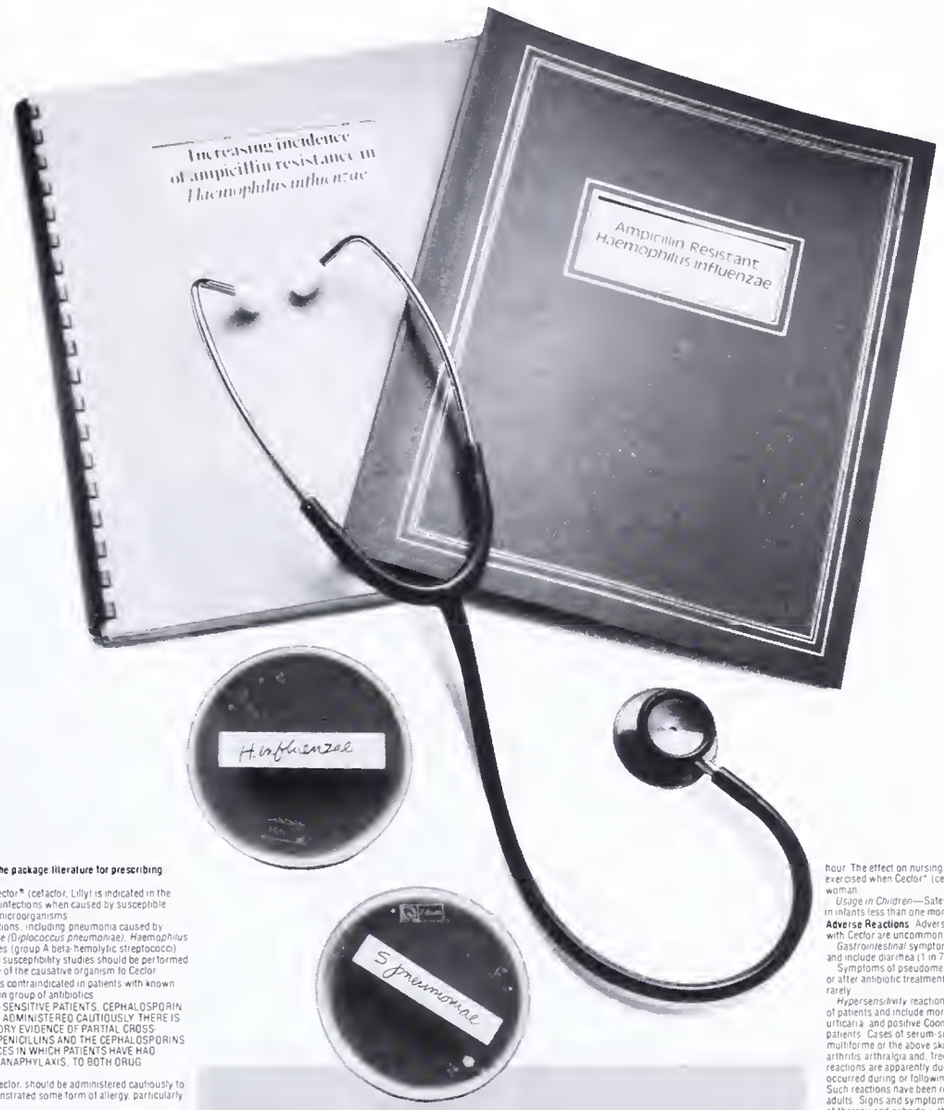
NOMINATING COMMITTEE

The Nominating Committee presented the following slate of nominations:

President-elect	**Nadine G. Bruce**
	William H. Hindle
Treasurer	**Walter W.Y. Chang**
AMA Delegate	**Calvin C.M. Kam**
	Neal E. Winn
Alternate AMA Delegate	**Sakae Uehara** (President-elect)
Councilors	
Hawaii	**Arch T. Wigle**
West Hawaii	**Robert H. Laird**
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Pulvules®, 250 and 500 mg

Brief Summary: Consult the package literature for prescribing information

Indications and Usage. Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (Diplococcus *pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci).

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication. Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: *General Precautions*—If an allergic reaction to Ceclor occurs, the drug should be discontinued and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers—Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one hour. The effect on nursing infants is not known. Caution should be exercised when Ceclor® (cefaclor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions. Adverse effects considered related to therapy with Ceclor are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2-5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1-5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[061782R]

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.*

Note: Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

References

1. Antimicrob. Agents Chemother. *8*:91, 1975.
2. Antimicrob. Agents Chemother. *11*:470, 1977.
3. Antimicrob. Agents Chemother. *13*:584, 1978.
4. Antimicrob. Agents Chemother. *12*:490, 1977.
5. Current Chemotherapy (edited by W. Siegenthaler and R. Luthy), II:860. Washington, D.C.: American Society for Microbiology, 1978.
6. Antimicrob. Agents Chemother. *13*:861, 1978.
7. Data on file, Eli Lilly and Company.
8. Principles and Practice of Infectious Diseases (edited by G.L. Mandell, R.G. Douglas, Jr., and J.E. Bennett), p. 487. New York: John Wiley & Sons, 1979.

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285

Eli Lilly Industries, Inc.
Carolina, Puerto Rico 00630

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HMA House of Delegates
Annual Meeting Summary
Continued from page 32

Nominees, continued

Speaker of the House **E. Lee Simmons**
Herbert Uemura

Vice Speaker of the House **Richard E. Ando**
Milton M. Howell

Resident Delegates **Mary Flynn**
Joe Kamaka
Stephen Wilson

Medical Student Delegates
Joan Fukumoto
James Hubbard
Demetria Leong
Gregg Shimomura
Andrew Lum
Robert Simmonds
Miles Tashima
Liane Tokushige
Anne Virnig

Those elected were:

President-elect **William H. Hindle**
Treasurer **Walter W.Y. Chang**
AMA Delegate **Calvin C.M. Kam**
Alternate AMA Delegates **Sakae Uehara**
William H. Hindle
Councilor from Hawaii **Arch T. Wigle**
Councilor from West Hawaii **Robert H. Laird**
Councilors from Honolulu
Hing Hua Chun
Gladys C. Fryer
John H.C. Kim
Charles H. Yamashiro
Philip Hellreich
Speaker of the House **Herbert S. Uemura**
Vice Speaker of the House **Milton M. Howell**
Resident Delegate **Mary Flynn**
Medical Student Delegate **Joan Fukumoto**



Left to right: *Audi* 5000S *Wagon*, *Porsche* 944, *Porsche* 911 *Carrera Targa*, *Porsche* 911 *Carrera Cabriolet*, *Audi* 4000S, *Porsche* 911 *Carrera Coupe*, *Porsche* 928S, *Audi* 5000S.

The members of the Nominating Committee for 1984 were elected as follows: Honolulu—**Ann B. Catts, Calvin Kam, Calvin Sia, Neal Winn**; Hawaii—**Arch Wigle**; Kauai—**Peter Kim**; Maui—**Andrew Don**; and West Hawaii—**Kenneth Grant**.

The House unanimously gave a standing ovation in honor of the many year of dedicated service by Dr. **Herbert Chinn** and **George Mills**. The House also gave a round of thanks to Dr. **Calvin C.M. Kam** for his leadership as 1982-83 president. Appreciation was expressed for the very warm and gracious hospitality shown to all by the Maui contingency.

Dr. **Frank B. Jirka**, AMA president, gave an informative opening address upon the reconvening of the House Monday, October 10, and installed the 1984 HMA officers at the closing banquet Monday evening.

1983 Annual Meeting Awards

Medical Reporting Awards:

Commercial newspapers and magazines: **Pat Hunter** (Honolulu Advertiser).

Television: **David Beggin** ("Body Talk"—Hawaii Public TV).

Institutional newspapers and magazines: **Tabby Chow** (Ka Leo O Na Kokua—St. Francis Hospital).

School newspapers and magazines: **Tom Donahoe** (Ka Leo O Hawaii—University of Hawaii).

A.H. Robins Award (1983 Physician of the Year Award for Community Service): **John N. Withers**, M.D.

Sportmen's Award:

Golf: President's Trophy (low net): **Richard Ho**, M.D.
Robert Miyamoto Perpetual Trophy (low net): **Richard Ho**, M.D.
John Felix Perpetual Trophy (low gross): **Michael Okihiro**, M.D.
George Mills Perpetual Trophy for Pharmaceutical Representatives (low net): **Gordy Somekawa**

Tennis: Singles—A Division: **Dennis Maehara**, M.D.
B Division: **James Doyle**, M.D.
Doubles—A Division: **Gerard Dericks**, M.D./**James Doyle**, M.D.
B Division: **Glenn Haines**, M.D./**Eugene Wasson**, M.D.

Table Tennis: **John Spangler**, M.D.

10-K Run: **John C. Lewin**, M.D., **Robert G. Yapp Jr.**, M.D.

Racquet ball: Open 1. **Tarif M. Zaim**, M.D.
2. **Roland Tam**, M.D.
Masters: 1. **Virgil Jobe**, M.D.
2. **William Hammon**, M.D.
Novice—Co-champions: **Derek Pang**, M.D./**Gunther Hintz**, M.D.



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HMA Council Highlights
November 4, 1983, meeting

• As of October 1983, total membership was 1,371, with 811 active full-pay members. This compares to a total of 1,184 with 798 active full-pay for the corresponding time in 1982. Many new members are students and residents.

• Total income, year-to-date, September 1983, was $581,295.28, with expenses at $524,327.89, for a net income of $56,967.39.

• IRS randomly selects non-profit organizations for spot-check audits. HMA was selected for audit in 1980. After a short review, the IRS agent auditor recommended that HMA lose its tax-exempt status. Over the next 7 months, HMA was obliged to prepare exhibits, showing why HMA should retain its tax-exempt status. Ultimately HMA's tax-exempt status was returned to us. Now an *ad hoc* committee will study establishment of a separate management organization to oversee all HMA activities so that this miserable blow doesn't happen again! (Ed note: "I'm from the government, and I'm here to help you!")

• Honolulu county society approved a dues discount to 75% of regular dues for physicians in their second year of practice. HMA also has approved this, which is also the policy of the AMA.

• **George Mills** is chairing an *ad hoc* committee to develop a proposal to contract for a PRO (Peer Review Organization).

• The Japanese Speakers Bureau, under the leadership of **Henry Yokoyama**, is to be a subcommittee of the TV-Radio Committee. This bureau has been active for many years and now has a weekly health education column in the Hawaii Hochi newspaper, plus a weekly 15-minute health program on KSHO UHF TV, called "Kenko Ni Narimasho" ("Let's Get Healthy").

• HMA has been working with the Hawaii Pharmaceutical Association on the proposed revision of the Hawaii Medicaid Drug Formulary.

• **Reginald Ho** is principal investigator and **Thomas Hall** project director for the Hawaii Community Clinical Oncology Program, which has received federal funding. A clinical trials office will be in Room 203 of the HMA building.

• HMA staffer Nelson Jones reports 100% occupancy of the HMA building. Efforts continue to improve the financial picture for our building.

• Maui Memorial Hospital has its CAT scanner in place.

• West Hawaii's Triathalon (running, swimming, bicycling event) of 1983 was successful, with more than 100 physicians and nurses donating more than 18 hours each and more than 230 entrants were seen at the medical facilities. 1984's Triathalon is expected to be bigger and better yet! Nearly 1,000 athletes participated, and most completed the course!

• **David Curb**, principal investigator, and **Fred Gilbert Jr.**, co-investigator, received council support for a proposed study by the Pacific Health Research Institute on "Systolic Hypertension in the Elderly." This is to be a 6-year study in connection with 19 other centers nationally, and the hope is to recruit locally 250 patients over 60 years of age with isolated systolic hypertension. Each participant's physician would receive periodic reports and the patient would be referred to his/her physician for regular care.

• Hospital cost containment was the subject of a Makaha workshop at which HMA's Becky Kendro participated, along with representatives from business, labor, SHPDA (otherwise known as the state health planning organization) and Medicaid. (Ed: We can expect to hear more on this.)

• Aetna/Medicare requested to use HMA's list of board-certified specialists as consultants in 13 specific specialties for second surgical opinions. HMA is asking each county to update and maintain its lists of specialists for referral.

• For those of you who would like to attend, tentative HMA Council meetings for the remainder of 1984 are at 5:30 p.m. March 2, April 6, May 4, June 1, July 6, August 3, September 7, October—HMA Annual Meeting, November 2, and December to be adjusted to the AMA Interim Meeting. Any member not on the council is welcome to sit in, though space is limited (but never filled).



Ed: Douglas G. Massey, M.D.

Basic and Clinical Endocrinology. By Peter H. Forsham, M.D., and Francis S. Greenspan, M.D. 649 pp. Lange Medical Publications, Los Altos, Calif. $25.

The book is intended to serve as a review of endocrinology and selected metabolic disease for medical students, residents, practicing physicians, and endocrinologists. The 33 authors more than fulfill the above intentions. Whether due to publishing technique or not, the information is current. Controversial or experimental findings are not conspicuous. The book is affordable.

The book begins with one of the most challenging and interesting developments in endocrinology, namely the mechanism of secretion, action, and response of hormones. This is undoubtedly the area where the next major development will occur. The section on hormone receptors is written clearly so that even a clinician 20 years out of his training can understand the rationale for using the Scatchard plot, hitherto discussed only in advanced seminars in endocrinology.

The chapter on prostaglandins and cyclic nucleotides is welcome because of their relationship to Bartter's syndrome, diabetic microvasculopathy, dysmenorrhea, hypercalcemia of cancer, and ectopic production of the prostaglandins by tumors.

The section on neuroendocrinology is written by a highly respected physiologist and reflects the distillation of current concepts relevant to clinical practice. The effects of hormones on the brain is discussed succinctly.

Perhaps because of the influence of Berkeley and San Francisco, where much of the structural analysis and synthesis of peptide hormones was done, the chapter on the anterior pituitary gives a good account of the molecular structure and physiology of pituitary peptide hormones, as well as the tests of hypothalamic-pituitary function; these are comprehensive and very clear as to the dosage of the test substances and the timing of the tests. An example of current information is the mention of production of human growth hormone by recombinant DNA technology.

The chapter on somatomedin is important in bringing newer understanding of this mystery hormone.

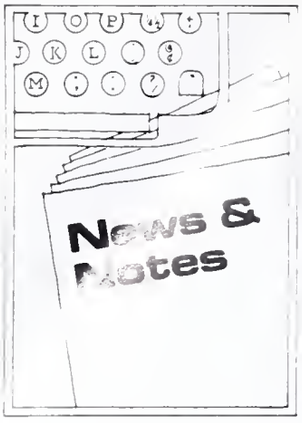
In the section on the thyroid gland, Kriss' theory on the pathogenesis of Graves' ophthalmopathy is given, enhancing the understanding of the rationale of treatment. A new concept of thyrotoxic crisis is also given. The management of the major thyroid disorders is well covered.

The chapters on glucocorticoids, adrenal androgens, and the adrenal medulla are well done by experts; an expert in this instance meaning a person who has seen more than average number of the cases involving the adrenal glands and who can make decisions on them.

All in all, this book is recommended highly for its content, format, and price.

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Henry N. Yokoyama, M.D.

Life in These Parts . . .

"Dr. **Harry Arnold Jr.,** for 40 years editor of the *Hawaii Medical Journal*, and Jeanne Herman of San Francisco will be married December 16 in the City by the Bay . . . At a Canlis luncheon in their honor, the host quipped that now some folks would look at the dermatologist as 'Benedict' Arnold . . ." (Dave Donnelly's Hawaii, November 15) (Ed. We are truly happy for HLA_2, our beloved editor-in-chief . . . He certainly deserves every happiness . . . At the risk of being redundant and repetitious, we have extracted from that fine poem, "The Skin Man" (recited by HLA_2 from memory at a 1981 Hawaii dermatologists' society meeting and found in toto in the November 1982 issue of the HMJ), as our own irreverent tribute to a great person and his new bride:

"No Paladin of Arthur's age; no gleaming crested knight
Of old romance, had such a chance his lady to delight.
For him that blush of damask rose; for him that downcast eye
Who drives the ringworm from her cheek, the itch mite from her thigh.
So farewell, Dermatitis! From you forever free!
Farewell, the bugs that bite us—the louse, the tick, the flea!
Edema and erythema—pruritus ani, too—
Like driven snow from top to toe, we bid you all, Adieu!"
Chorus
Oh, some may sing the surgeon's skill—
He wields a wicked blade!
While not a few prefer GU
Though it's not a tidy trade.
Pure Science has her acolytes,
A brave, devoted band!
But I'd rather be a skin man
And with the skin men stand.

Anon.

* * *

Miscellany

Notice to clerks in a food chain: "Do not cash checks for strangers unless you know them personally." (Heard on KHVH radio)

Bumper sticker on a half-ton truck: "Please no get mad if we go slow. We on Hawaiian time." (As related by **Claire Loo**)

Life in These Parts II

"Dr. **Tom Richert** is lamenting the theft of his yellow Daimler sports car from the municipal parking lot at Beretania-Bishop. Should be easy to spot because the doc says it's the only Daimler on the Island." (Don Chapman, April 13) (Ed. We hope Tom has gotten it back by now . . . intact, that is.)

"After trying unsuccessfully to get a doctor from a major medical group to make a house call, octogenarian Arthur Murray finally got Straub's Dr. **Ralph Beddow** to agree to stop by his apartment during the doctor's lunch hour. Murray was so grateful that he gave the physician a Madge Tennant painting worth $7,500 by way of a thank you. 'I don't understand these doctors,' said the agitated Murray. 'They'll leave their office to visit you in Queen's—why not at your apartment where it's much more comfortable?' " (Dave Donnelly's Hawaii, November 4).

At a 2-day medical ethics conference, sponsored by St. Francis Hospital in November, Honolulu attorney Richard Quinn, who has been defending physicians and hospitals in medical legal suits, declared, "It's legally incumbent on physicians to tell patients everything. If the doctor doesn't, it's negligence. Hawaii law requires physicians to explain fully the consequences of treatment, including any long- or short-term risks, side effects, and alternative treatments. Any deviation can be construed as prima facie negligence. Non-traditional treatments such as transplants may raise new questions of ethics, but the truth still must be told."

Surgeon **Ray Fujikami** stated that most patients only want to know 2 things—what's going to be done and what can be expected. Physicians are bound to tell the truth.

RN **Doris Ahana** felt that physicians should speak in plain language to patients. "If treatment isn't explained simply, patients can't understand what is happening," she said.

Father Richard McCormick, Georgetown University ethics professor, supported the patients' right to know. "There's no medical way of really knowing when life is worth living. Only the patient can decide if life is worth living."

Fairy godmother **Carolyne K. Davis**, Department of Health and Human Services' Health Care Financing Administration chief, explained that hospitals are the first target of Medicare cutbacks because they receive the biggest chunk of the government health care payment pie—67%. Davis points out that between 1950 and 1982, the Consumer Price Index rose 300%, while health care costs rose 2,400%. With her crystal ball, she predicts that the new prospective payment system will offer hospitals incentives for cost containment and efficiency and still maintain quality care. Hospital administrators and doctors have grave doubts about the rationale. QMC chief executive **George Bolian** said, "We can and will trim the fat, work on developing consortiums, networks, and mergers for savings. However, I believe somewhere along the line we'll reach a point of diminishing returns and at that point the overall quality and quantity of health care—its accessibility and availability—also will diminish."

The November Pacific Business News poll, conducted by Loui/Singer & Associates, elicited responses from 392 households re: the overall feelings about 10 selected professions (71% of the respondents were Oahu residents for more than 20 years and 68% of the households have annual incomes over $20,000). To the question, "Please indicate how you generally feel about people engaged in the following professions in Hawaii. Please rate them Very Favorable, Somewhat Favorable, Somewhat Unfavorable, or Very Unfavorable." The rankings were as follows:

Architects	93%
Dentists	92%
Engineers	90%
Physicians/surgeons	90%
Accountants/CPAs	90%
College professors	85%
School teachers	82%
Journalists	75%
Attorneys	63%
Judges	62%

(Ed. Well, we didn't rate as high as architects and dentists, but we did better than professors, teachers, journalists, attorneys, and judges. Methinks we need to improve our image somewhat. It's a rude awakening, eh wot?)

"Queen's Medical Center's new president, Dr. **George Bolian**, stopped by a Festival of Trees workshop to offer his services to the volunteer ladies responsible for putting on the fest which adds mucho moola to Queen's purchasing power each year. He told the assemblage, 'I want to help and I don't know how. Teach me! I have a feeling you will.' That impassioned speech brought a response from long-time fest Treasurer **Burta Atherton**, who told Dr. Bolian, 'Well, Will Henderson had to clean johns at the Blaisdell once.' " (Dave Donnelly's Hawaii, November 8)

Joel Greenspan, CDC's epidemiologist in Hawaii, reported that Hawaii has had 9 AIDS cases, 3 of whom have died . . . Eight cases fell into the CDC's "risk group categories," i.e., male homosexuals, bisexuals, intravenous drug users, Haitians, hemophiliacs, or those who have intimate contact with those groups. Eight in Hawaii were male homosexuals in their 30s . . .

Continued on page 46

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Continued from page 44

Elected, Appointed & Honored

The Hawaii Ophthalmological Society has the following slate of officers for 1984: President **Malcolm R. Ing**; Vice President **Shigemi Sugiki**; Secretary **George Plechaty**; Treasurer **John Drouilhet**; Member-at-Large **O.D. Pinkerton.**

The families of **Jim** and **Betty Fleming** and of **Katsuyuki** and **Edith Izumi** were 2 of the 3 Maui families honored in November as "Great American Families" (part of a nationwide observance that will culminate when the representative families gather at the White House this summer). The ceremony at the Maui Mall was held in conjunction with National Family Week. The 3 main criteria for selection were: individual growth, teamwork, and service to others.

Katsuyuki Izumi spearheaded the committee to fund and build Hale Makua, while Edith organized and taught the first Maui school for mentally retarded children. Edith also started the first Hongwanji nursery school and was one of the founders of the Maui Association of Nurserymen. Both Kats and Edith have worked with the scouting and 4-H programs.

"Everyone on Maui has a heartwarming story of their own to tell of the Fleming family." Jim has put in volunteer stints in Third World countries and Betty is a long-time volunteer of the hospital auxiliary and member of university extension clubs. Both have been involved in many non-profit agencies and in their church, giving financial aid to those in need, scholarships, and other benefits to young people.

Reginald Ho, chief of oncology and hematology at Straub, was elected to the American Cancer Society board of directors at its annual meeting in New York . . . **Noberto Baysa** of Wahiawa was honored with a Silver Anniversary Citation for 25 years of service to mankind from his alma mater, Creighton University School of Medicine . . . In Atlanta at the American College of Surgeons meeting, ophthalmologist **Robert Wong** (fellow since 1947) proudly welcomed his two sons, general surgeon **Bradley Wong** and retinal surgeon **Stephen Wong** (on the staff at Temple University School of Medicine), as fellows in the college . . . **Deen L. Wong,** director of laboratories, Kona Hospital, was elected a fellow of the American College of American Pathologists . . . **Lee Jacobs**, internist and infectious disease specialist, was elected president of the Kaiser Hospital medical staff . . . **Pat Hunter**, Advertiser medical writer, was awarded a Dean's Special Award for Community Health from the University of Hawaii's School of Public Health during the school's commence-

ment exercise on December 18. Dean **Jerrold Michael** said, "Her ability to describe difficult health subjects to the citizens of Hawaii, her dedication to the accuracy and quality of her reporting, and her commitment and perseverance to improvement in the health status of our fellow citizens is in the best traditions of the field of community health." (Hear! Hear!)

Hors de Combat

At the HMA 127th Annual Meeting on October, **David McCarron** from Oregon School of Medicine spoke of many things including, "There's mounting evidence that low sodium diets don't do any good . . . A government study showed that the more you use the salt shaker and the more salty snacks you eat, the lower the blood pressure."

There was no immediate reaction to the October 11 news article quoting McCarron, but by November 1, as **Pat Hunter** puts it, "The blood pressures of several Honolulu cardiologists and internists shot up" and "went up still further when patients began calling their offices asking if they could get off their medications and get back to eating salty foods."

Irwin Schatz, Hawaii Heart Association president, wrote, "The article on Dr. David McCarron's lecture could have a negative impact on thousands of people who used to have their blood pressures controlled; it may even be a major disservice to them . . . There is overwhelming evidence that a low salt diet is important treatment in the majority of hypertensive patients . . . And most medical scientists and practicing physicians with years of experience using diuretics and beta-blockers are convinced of their safety and utility; to claim otherwise should require substantial scientific data, none of which were apparently presented by Dr. McCarron . . . The Hawaii Heart Association strongly recommends the continuation of such management programs as prudent and worthwhile and that suggestions to the contrary have not been validated scientifically and may be harmful."

J. David Curb, associate professor of medicine at University of Hawaii Medical School, said, "McCarron's views are on the fringe of a variety of opinions on the treatment of high blood pressure. His ideas are divergent from the main stream of medical opinion."

Cardiologist **Stephen Wallach** said, "Individual reactions to a high salt diet can't be predicted, but if the person has high blood pressure it makes sense to restrict sodium . . . Excess salt can put people with sick hearts into heart failure . . . Anyone on diuretics should eat foods rich in potassium—such as oranges, bananas, other fresh fruits, raisins and dark green leafy vegetables . . ."

Continued on page 48

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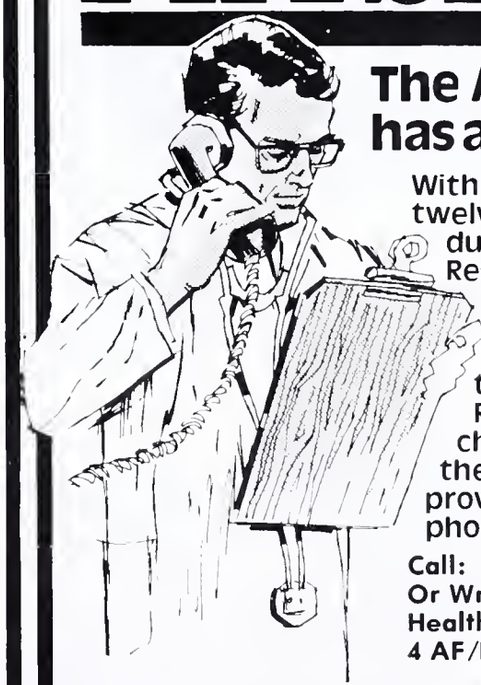
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A GREAT WAY TO SERVE

Continued from page 47

The contract dispute over the Kohala Hospital emergency services flared up again as the two Kohala ER physicians, **James Brand** and **Robert Watkins**, were relieved of their duties by **Abelina Shaw**, state hospital division deputy director of health, on December 20. Their contract was for 3 months and had a 3-month renewal option. (Ed. The dispute seems to be quite involved, but money is apparently the real issue, as always.)

Entrepreneurs

New Techniques Available

William Yarbrough, chief of urology at Straub, uses the percutaneous universal nephroscope to remove kidney stones. Presently he uses a 2-stage technique. He first inserts a tube into the kidney from the back. The patient returns a week later and he inserts the nephroscope through the passage established by the tube and removes the stones by grasping or crushing instruments. Large stones can be dissolved with an ultrasound probe. With more experience, he expects to do the procedure in one sitting . . .

Radiologist **George Takushi** has purchased a spectrascan, developed by Ernest Carlsen of Anaheim, Calif. The scan records images produced by red and infrared light passed through breast tissue onto video cassettes and computer discs. The transillumination light scanning does not use X-rays and the colored images produced by the computer help distinguish different tissues in the breast, i.e., tumor shows as deep blue and black, fat is yellow to red, and fibrous tissue is light blue . . .

Dermatologist **Norman Goldstein** has brought in an argon laser after getting training at the Palo Alto Medical Foundation. The laser can remove port wine hemangiomas and tatoos. The treatments are done under local over a period of time since only 2 square inches can be done at a time. The laser vaporizes the blood vessels in hemangiomas and the pigment in tattoos . . .

Follow Up

Dr. **Michael McKee**, at that time a resident physician in Honolulu, drowned in 1979 at Hanakapiai on Kauai when the sign posted at the beach did not adequately warn of the danger. The parents refused a $30,000 out-of-court settlement from the state, only to lose the case in court. But the family won a moral victory when Circuit Court Judge Simeon Acoba ruled the state was 23% responsible because of the inadequate sign. The jury had handed down the decision, expecting the McKees to be awarded more than $135,000, but it had not known that the defendant had to be 50% responsible to be charged damages. The McKees earlier had settled out of court with Kauai County for $30,000 damages, plus a similar amount for attorney fees, charging that the Kauai fire chief failed to respond in a timely fashion to reports that Michael was missing.

Miscellany . . .

The home team is 10 points ahead with 3 minutes to play. The star quarterback is side-lined with a knee injury. The desperate coach summons Joey, his 2nd string quarterback. "Now, Joey, you go in and call 3 running plays and then punt. First play, call an off-tackle to the right. Second play, call an end run to the left. Third play, do a quarterback sneak." "Gotcha, coach!" Joey goes in. The first play, an off-tackle to the right, goes for 18 yards. The second play, an end run to the left, goes another 20 yards. Then Joey keeps the ball and pulls a quarterback sneak which gains another 10 yards. The ball now rests on the 6-yard line. Joey calls for a punt. As he comes off the field, the coach, bug-eyed, crimson-faced, and foaming at his mouth, sputters, "Joey! How can you be so dumb!" "Well, coach, I thought you were pretty dumb yourself, but I followed your game plan." (As told by our golf partner, **Walter Loo**, who heard it from golfer **Jim Ferry.**)

An art teacher asked her 4th grade students to draw a picture which would represent their dad's profession. One child drew a black top hat . . . "My dad is a magician" Another child drew a scale. "My dad is a judge . . ." A third child drew three circles. The teacher asked, "Is your dad a performer in a 3-ring circus?" "No, he's a doctor and has to make rounds." (As told to MSD representative **Claire Loo** by **Erlinda Cachola**)

◊

DRGs and Medical Care—*A Message from the Medical Society of Delaware*

The following is reprinted from the Delaware Medical Journal, October 1983, with permission from the Medical Society of Delaware publishers:

Far-fetched?—Don't Count on It!

January 1, 1985

Dear Dr. Anyone:

Your request for renewal of your hospital privileges has been carefully considered by the Credentials Committee. First, let me say that you have been a great asset to this institution throughout your 20 years of association. Your patients, in our opinion, have always received the best quality care. You have attended all your required clinics, staff and departmental meetings, and many other committee meetings; and have been a great contributor to these meetings and to our growth and maturity as an institution. Furthermore, you have been exemplary in your record-keeping and have never been sued for malpractice. You also have maintained a good relationship with your peers and other hospital professionals. Finally, I must point out that your type of practice has been a strong financial asset to our hospital because your cases have been complicated and have produced significant income to us, helping to defray many other cases that were unable to pay their full share.

I regret, however, to inform you that your hospital privileges will not be renewed because since October 1, 1983, when this institution began receiving payment for Medicare and Medicaid patients based on DRGs (Diagnosis Related Groups), we find that we cannot AFFORD you anymore. Total costs on your cases have exceeded income by an average of 33%. It is obvious that this institution cannot continue to have physicians on our staff who are not cost-effective and who run a deficit operation.

Please accept again our thanks for all your previous efforts and contributions to this institution. It is only because of conscientious, dedicated physicians like you that we have become the best hospital in this region.

Sincerely,
I.B.U. Farewell, M.D.
Vice President, Medical Affairs

Far-fetched?—Not at all! Such scenarios may very well start occurring all over the country in the near future.

The Medical Society of Delaware is attempting to deal with potential problems such as this in advance. I have appointed Albert Gelb, M.D., as chairman of an ad hoc committee on physician-hospital relationships. This committee has as its first goal, the charge of contacting every hospital in this state to set up a strong medical society-hospital relationship in dealing with DRGs and related problems.

Ignatius J. Tikellis, M.D.
President
Medical Society of Delaware



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HMA Auxiliary

Past Tense

The combined 1983 annual meeting of the HMA Auxiliary and the HCMS Auxiliary was outstanding among those in their combined 35-year history. **Glenda Bates,** national Auxiliary president, installed 1984 officers of both groups. Her enthusiasm and dedication were most inspiring. The same qualities apply to the outgoing and incoming officers: **Joann Lundborg** of Hawaii, taking over **Carol McNamee's** presidency of HMAA, and **Nancy Simmons**, following **Ella Edwards** as president of HCMSA.

Lest prospective members think meetings are all business, they should have been at the luncheon and fashion show that followed. With **Susan Hindle** as mistress of ceremonies, fashions from In Bloom, Chocolate Moose, and Body Wrap were displayed by our own members. When Susan can have **Alice Tucker** drape our departing reporter, **Dorothy Shepard**, in a black, round tablecloth, looking like she's going out to dinner, you know you've got fun!

Priorities

Hawaii County Auxiliary, which started the first chapter of M.A.D.D. (Mothers Against Drunk Driving) in the Islands, has submitted names for its board of directors to the national headquarters. **Betty Ghosh** headed the efforts. The auxiliary has developed a mini-curriculum in the elementary schools to help educate children on the dangers of driving and drinking. They are looking forward to hosting Candy Lightner, founder of M.A.D.D., this month when she visits Hawaii.

Maui County Auxiliary, led by **Leanna Stodd** and **Betsy Haines**, also has been active in setting up a chapter of M.A.D.D. In December, cooperating with the police department on weekend nights, volunteers manned the KMVI van for "Alchotests." People could drive into the shopping center and have their breath tested. Maui Auxiliary was the driving force behind Lightner's trip to our state.

Honolulu County Auxiliary is planning its annual "Guest Day" around M.A.D.D.

Some statistics are:

• Twenty-five thousand people in the U.S. are killed each year in alcohol-related crashes. (Eighty to 100 are killed in the state of Hawaii.)

• One out of every 2 Americans will be involved in an alcoholic-related accident in their lifetime.

• For Americans between the ages of 5 and 35, automobile accidents are the leading cause of death—and more than 50% of these accidents are caused by drunk drivers.

Drinking + Driving = Destruction

A community health seminar will be sponsored by the Auxiliary to the Honolulu County Medical Society and the newly forming Honolulu chapter of M.A.D.D. at the conference kick-off, Wednesday, February 15, at 7:30 p.m. Candy Lightner will talk on the drunk driving problem and citizen action. (Lightner founded M.A.D.D. in 1980 after her 13-year-old daughter was killed by a drunk driver.) This session will be held at McKinley High School Auditorium, 1039 S. King Street, and will be open to the public at no charge.

Part 2 of the program will deal with "The Drinking—Driving Problem in Hawaii" and will include films, panel discussions, and speakers, including Lightner. This session will be on Thursday, February 16, at 8:30 a.m. to 2 p.m. The location will be announced later.

For more information contact Anita DiMauro, 947-5744, or Carol McNamee, 373-3201.



Editor:

I was taken aback by the "News & Notes" item regarding HMA's distinguished medical reporting award in the December 1983 issue of the Hawaii Medical Journal.

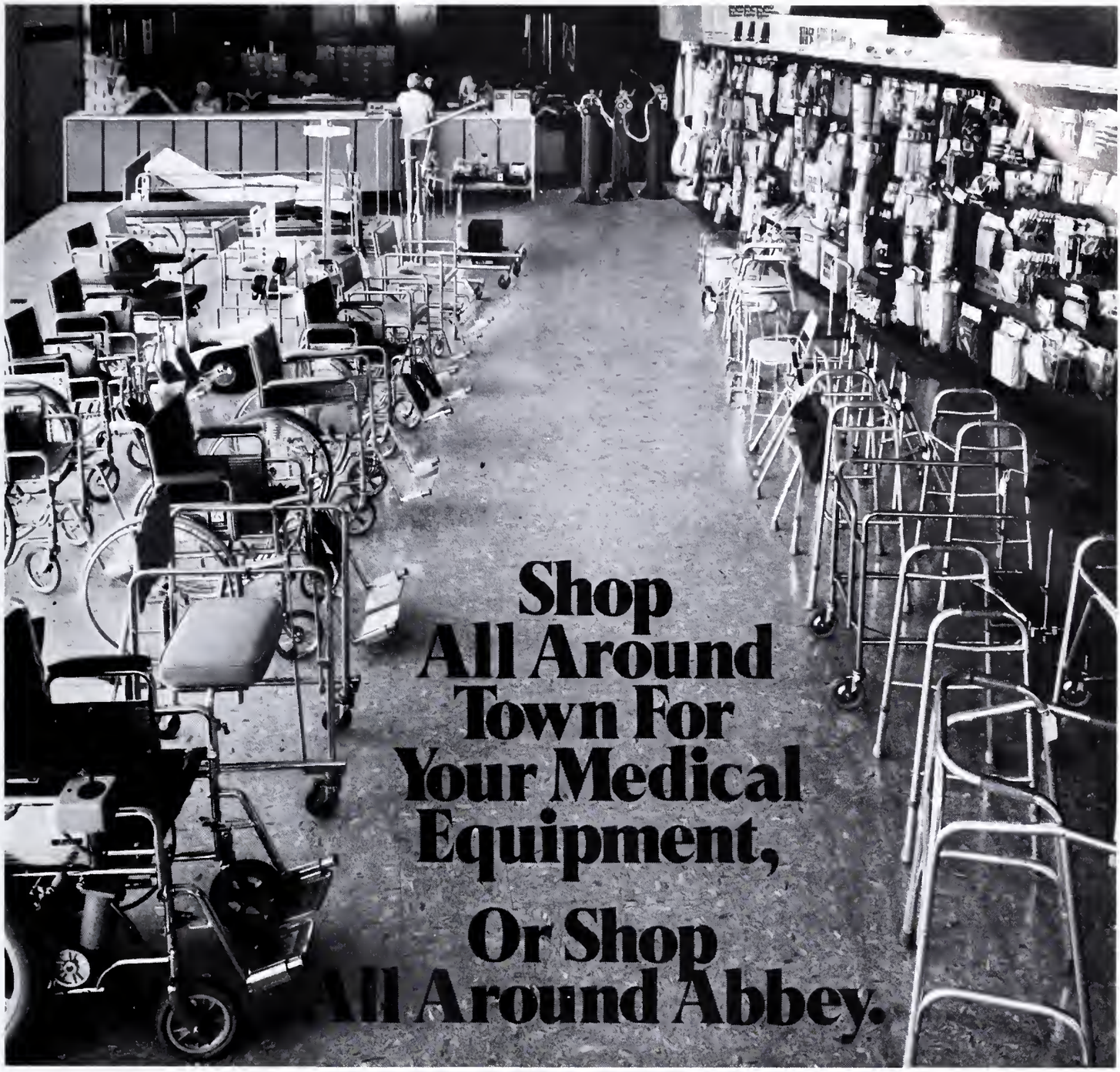
Indeed, Pat Hunter does excellent work, but since she, and former Star-Bulletin medical writer, Tomi Knaeffler (who left the Bulletin about 6 years ago) were compared as "such superb medical writers" that the award had to be alternated between them each year, the implication is that the Star-Bulletin has had less than "superb" medical writing since Knaeffler left.

Perhaps a closer look at the Star-Bulletin—especially at its weekly health page—would reveal that the medical writing didn't deteriorate after Knaeffler left. Of course, as the current Star-Bulletin medical writer, I was offended by the item. But I guess we'll just have to try harder.

Yours in support of "superb" medical writing,

Jeanne Ambrose
Medical writer (since 1980)
Honolulu Star-Bulletin

Ed: Jeanne Ambrose received the HMA Distinguished Medical Reporting Award in 1981.



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CONTENTS

HMA President's Page 59
Sakae Uehara, M.D.

Over the Editor's Desk 60
Harry L. Arnold Jr., M.D.

Mastectomy Informed Consent 63
Board of Medical Examiners

Editorials:

The Reference Committee 64
J.I.F. Reppun, M.D.

Ethics and Fraud 66
D.G. Massey, M.D.

News and Notes 66
Henry N. Yokoyama, M.D.

More Photos from HMA's Annual Meeting—at Work and at Play 72

Pseudomonas Epidermal Necrolysis 74
George O. McPheeters, M.D.
and Clifford J. Straeley, M.D.

Resuscitation of the Newborn—A Practical Approach 79
Rodney B. Boychuk, M.D.

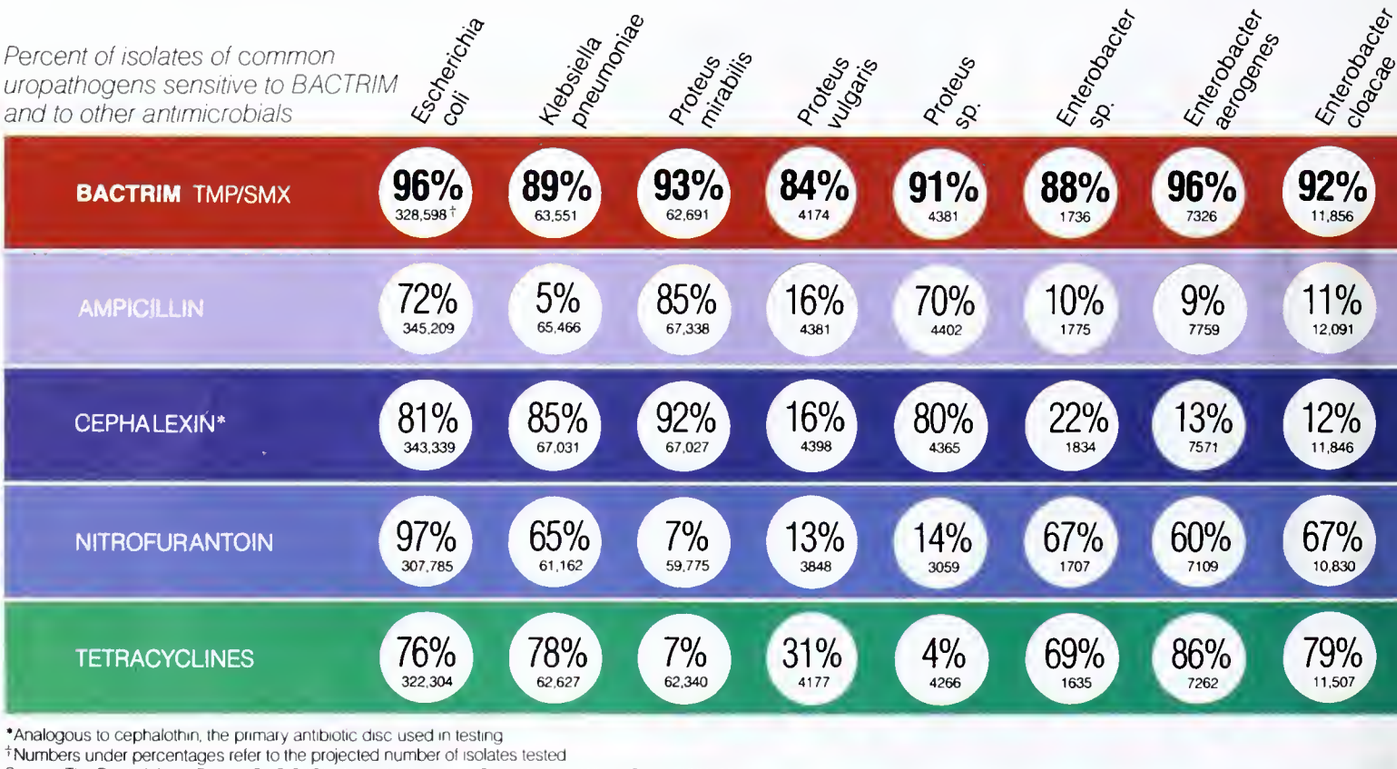
Continuing Medical Education 85

HAFP Newsletter 90
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1856

Bactrim™ excels
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More urinary tract isolates prove sensitive *in vitro*



*Analogous to cephalothin, the primary antibiotic disc used in testing
†Numbers under percentages refer to the projected number of isolates tested
Source: The Bacteriologic Report, BAC-DATA Medical Information Systems, Inc., Winter Series 1981-82.

More studies show a lower incidence of bacteriologic recurrence

Patients treated with Bactrim have often remained free of recurrence longer than comparable patients treated with other drugs. In one study, 87 "difficult" patients, 76% of whom were infected with *E. coli*, were treated with Bactrim or cephradine.[1] Although the differences were not statistically significant, the cure rates with Bactrim were 85.4% at two weeks and 72.5% at six weeks, compared to 69.8% and 56%, respectively, with cephradine.

In a study of 93 women treated with either Bactrim or cephalexin for *E. coli* or *Proteus mirabilis* infections,[2] the cure rate six weeks after the course of treatment remained significantly higher with Bactrim than with cephalexin (84.6% vs. 58.5%).

Bactrim is indicated for the treatment of recurrent urinary tract infections due to susceptible strains of *Escherichia coli*, *Klebsiella-Enterobacter* and the *Proteus* species. However, it is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single antimicrobial agent rather than the combination.

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recurrent urinary act infections

More positive clinical results

Comparative studies of BACTRIM and other agents used in urinary tract infections

Reference	Number of Patients	Therapy	Dosage	Type of Study	Results
Cooper, Brumfitt, Hamilton-Miller[1] (1980)	41 43	Bactrim cephradine	160 mg trimethoprim & 800 mg sulfamethoxazole *t.i.d.* 500 mg *q.i.d.*	Randomized comparison	Cure rate with Bactrim = 85.4%; with cephradine = 69.8% after two weeks
Gower, Tasker[2] (1976)	46 47	Bactrim cephalexin	160 mg trimethoprim & 800 mg sulfamethoxazole *b.i.d.* 1000 mg *b.i.d.*	DB	Cure rate with Bactrim = 96%; with cephalexin = 68% two weeks after therapy
Cosgrove, Morrow[3] (1974)	15 15	Bactrim ampicillin	160 mg trimethoprim & 800 mg sulfamethoxazole *b.i.d.* 500 mg *q.i.d.*	DB	Bactrim proved more effective in uncomplicated chronic UTI
Iravani *et al*[4] (1981)	64 71	Bactrim nalidixic acid	160 mg trimethoprim & 800 mg sulfamethoxazole *b.i.d.* 1 Gm *q.i.d.*	Randomized comparison	Cure rate with Bactrim = 93%; with nalidixic acid = 90% one week after therapy
Schaeffer, Flynn, Jones[5] (1981)	20 20	Bactrim cinoxacin	160 mg trimethoprim & 800 mg sulfamethoxazole *b.i.d.* 500 mg *b.i.d.*	Randomized comparison	Both agents equally effective

References: 1. Cooper J, Brumfitt W, Hamilton-Miller JMT. *J Antimicrob Chemother* 6:231-239, 1980. **2.** Gower PE, Tasker RW. *Br Med J* 1:684-686, Mar 20, 1976. **3.** Cosgrove MD, Morrow JW. *J Urol* 111:670-672, May 1974. **4.** Iravani A *et al*: *Antimicrob Agents Chemother* 19:598-604, Apr 1981. **5.** Schaeffer AJ, Flynn S, Jones J. *J Urol* 125:825-827, Jun 1981. **6.** Kramer MJ, Mauriz YR, Robertson TL, Timmes MD. Morphological studies on the effect of subinhibitory and inhibitory doses of a sulfamethoxazole-trimethoprim combination on *Escherichia coli*. Presented at the 12th International Congress of Chemotherapy, Florence, Italy, July 19-24, 1981.

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Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris, Proteus morganii.* It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, hepatocellular necrosis, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

Pregnancy: Teratogenic Effects: Pregnancy Category *C*. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, hepatocellular necrosis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: *Not recommended for infants less than two months of age.*

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

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Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: *Double Strength (DS) tablets*, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 20. *Tablets*, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. *Pediatric Suspension*, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). *Suspension*, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

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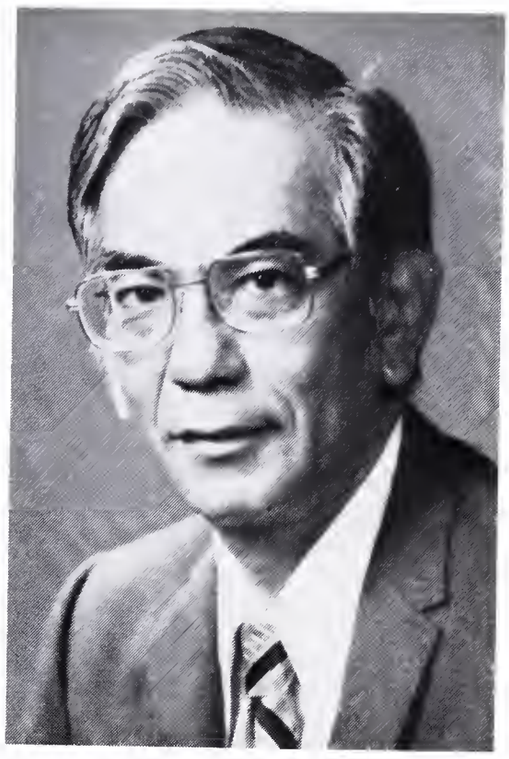
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President's Page



Sakae Uehara, M.D.
1984 President of the
Hawaii Medical Association

Days of Plenty—Days of Want

This is the acceptance speech Dr. Uehara gave when he was installed as HMA president.

Once upon a time a boy, growing up in Upper Paia on Maui on the slopes of Haleakala, had as a chore the collection of slop (garbage) for his family's pigs (not the backyard type which appears to be somewhat popular nowadays). He made his rounds with a homemade wheelbarrow and two 5-gallon cans. It seemed to me then that the animals enjoyed the menu more during the holiday season of Christmas and New Year's, but then seemed to survive and flourish despite the let-down in the fare after the holidays, when the humans adjusted their own economy as evidenced by the caliber of the garbage. Nevertheless, the trough always was filled somehow or other, and the animals were well cared for by my brother and me.

I also remember that in those days, the beaches around this part of Maui were veritably inaccessible, except to the hardy; traveling on dirt roads, climbing over barbed wire, picking the way between kiawe trees, and bringing one's own drinking water. Now, there are the several hotels, golf courses, and new highways, making possible this meeting on Maui.

In this same period of several decades, other changes have occurred—in the paternalistic plantation life and plantation medicine; in the formation and growth of HMSA; in the expanded travel and exposure of our citizens of Hawaii to the several wars, affordable transportation, and television; and in the logarithmic growth of state and federal government in our lives, with the Hill-Burton program, the Health and Manpower Acts, then Titles 18 and 19—the Medicare and Medicaid laws. These years saw our country enjoy a long holiday season when all Americans enjoyed the improved bill of fare. In fact, the trough was overflowing frequently. Sometimes it even seemed as if the offerings in the trough came directly from the serving dish, bypassing the dinner table and the garbage pail.

Concurrently, and partly because of the above events, there has been rapid growth of specialties and subspecialties, and rapid increase in number of physicians, and advances in technology and knowledge. Expectations and frequently irrational perceptions of medical practice by the public continue to grow, and the problems of malpractice liability continue to grow.

Through the past dozen years, however, the indication of concern regarding the past generous government outflow began also to grow—with PSRO, voluntary cost cap programs, comprehensive health planning, and state health planning and development with its "Certificate of Need." Most recently, we have Reaganomics, block grants, Ariyoshi cuts, and finally TEFRA of 1982 with its DRG (diagnosis-related groups) and PRO (Professional Review Organization). Indeed, the holiday fare at the trough is gone, and indications are that the menu will become more austere.

Despite these hard times, I doubt that the trough will ever be empty. We, individually and as associations of physicians, must continue to show our patients that we care. It is not the complete solution to apply inappropriate pressures and responsibilities on the shoulders of the third-party payers and of the providers of medical care—doctors and hospitals. We have to change these unreasonable perceptions and expectations of our patients and our legislators.

Service does not end in our offices or our hospitals. We can serve our patients also in our state capitol and in Washington, by helping our legislators to make wise decisions, because they also serve our patients.

I am very fortunate in having so many of our members agreeing to serve on the various committees of the Hawaii Medical Association. This demonstrates the willingness of many to serve. We welcome and urge every member to participate in this service.

I thank you for this opportunity to make my first remarks as your President.

* * *

Meet Our New HMA President

Maui general surgeon and internist Dr. Sakae Uehara was installed as president of the Hawaii Medical Association (HMA) in October 1983 at the Hotel Inter-Continental Maui.

Dr. Uehara has been active in medical society affairs since 1965. He served as president of Maui County Medical Society, councillor to the Hawaii Medical Association, alternate delegate to the American Medical Association, and as member of numerous committees.

He has been chief-of-staff at Maui Memorial Hospital and a member of the board of directors of the Hawaii Medical Service Association (HMSA) and the Pacific Professional Standards Review Organization (Pacific PSRO). His community activities and organizations include the Regional Medical Program of Hawaii; Maui County Hospital System Management Committee; Tri-isle Council, Comprehensive Health Planning; Subarea Council, Hawaii State Health Planning and Development Agency (SHPDA); and Hawaii Emergency Medical Services Advisory Committee.

Sakae received his medical degree from the University of Chicago School of Medicine. He completed residencies in general surgery at Wayne State University Affiliated Hospitals in Michigan and in internal medicine at Hines Veterans Administration Hospital in Illinois. He is currently in private practice in Wailuku, Maui.



Harry L. Arnold Jr., M.D.

AIDS has resulted from blood transfusion in 31 adults (with 13 deaths) and 7 infants (with 4 deaths) as of late December; see the current NEJMed *and January 13 issue of* JAMA.

* * *

Neonatologists and pediatricians take notice: Hewlett-Packard offers 3 new monitors, HP 78831A, 78832A, and 78833A, for managing "the full spectrum" of neonatal-care problems. All 3 have "softkeys," an "intelligent cardiotach," and "super-raster display technology." Clearly, it is time for your correspondent to retire!

* * *

Fluoridation of community water systems is still the only cost-effective method of protection of our population against tooth decay, according to a study by the Robert Wood Johnson Foundation, of Princeton, N.J. Several school-based programs were tested in 30,000 children in 10 sites across the country. Frank Tabrah, M.D., who certainly enjoys community confidence, told us the same thing after a study he did in Hawi, on the Big Island, 15 years ago. Enrichment of the only important nutritional source of fluoride is the only way to alleviate this deficiency disease in our children. Our tap water may contain some things it shouldn't, but it's deficient in one thing: fluoride!

* * *

Geriatricians and others will be interested in a 3-day course on "Common Clinical Challenges in the Elderly," offered May 3-5, 1984, by the Philadelphia Geriatric Center and the Medical College of Pennsylvania in Philadelphia. Samuel Gomberg at the PGC will tell you all about it.

* * *

The Crohn's Disease and Ulcerative Colitis Fact Book *is available for $14.95 from Charles Scribner's Sons, Dept. DC, 597 Fifth Avenue, New York, N.Y. 10017.*

* * *

Herpes virus can survive for up to 4.5 hours on plastic surfaces in moist areas, says an NIH researcher in *JAMA* for last December 9. It dies promptly in bath water with a little chlorine in it.

* * *

Sporocidin, a buffered liquid alkaline glutaraldehyde disinfectant solution, sterilizes instruments reliably in 10 minutes and is nonirritating and does not stain the skin. It is stable indefinitely before activation and for 30 days afterward.

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Oxygen flow rates below 2 lpm and as low as 0.5 lpm are reliably achieved and monitored with Western Enterprises' New ML-540-5FG regulator. Catalog REG-2, from the company, 33672 Pin Oak Parkway, Avon Lake, Ohio 44012, tells all about it.

* * *

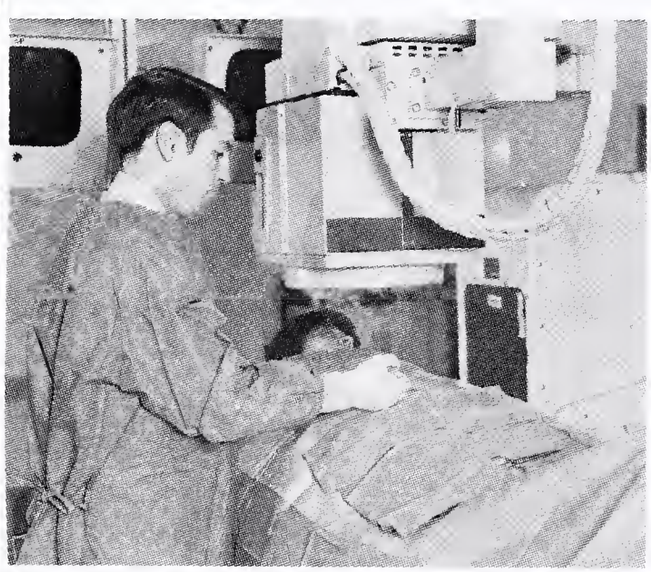
Allergists and immunologists please note: The Western Society of Allergy and Immunology will meet October 25-27, 1984, at the Radisson Resort in Scottsdale, Ariz. Joyce Gullixson at 1700 S.W. Columbia, Portland, Ore. 97201, knows the details.

* * *

Sandimmune (cyclosporine), an immunosuppressant that doubles transplant success now achievable and does it without compromising resistance to infection, has just received FDA approval. It seems likely to have wider applications by far than the transplant use for which it has been approved.

* * *

Practical cardiology for the family physician will be the theme of a CME program to be held in Orlando, Florida, April 2-4, 1984, by the American College of Cardiology at Sheraton World.



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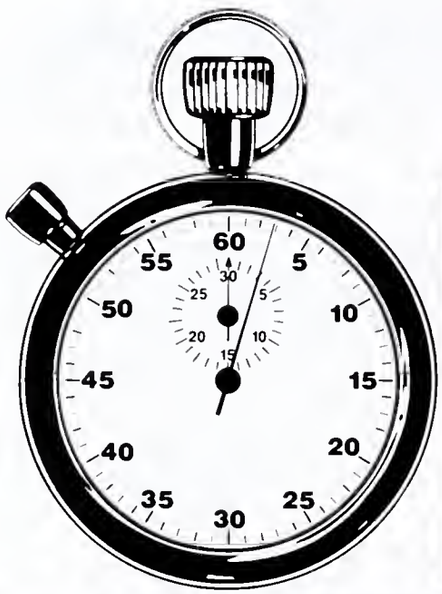
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ON TIME

New State of Hawaii Directive:

Mastectomy Informed Consent

Ed. Note: The following notice and guidelines have not been widely circulated having been sent only to hospitals, HMA and the Department of Health. The Hawaii State Board of Medical Examiners hope these agencies will alert members and the public.

These guidelines should be an integral part of the informed consent and included in a patient's medical record (signed copy), similar to the current single-page informed consent document suggested by the Board of Medical Examiners.

Mr. Jon Won
Executive Director
Hawaii Medical Association

Dear Mr. Won:

The 1983 session of the state legislature passed Act 285 which mandated the Board of Medical Examiners to establish standards for health care providers to follow in giving information to a patient or a patient's guardian to ensure that the patient's consent to the performance of a mastectomy is an informed consent. The substantive content of the information to be given shall include information on the recognized alternative forms of treatment.

The Board of Medical Examiners, working with the HMA and the Cancer Society, developed the enclosed guidelines and adopted them at their board meeting on September 21, 1983.

The board had hoped to develop a brochure and include the guidelines in a mailing to all licensees, but unfortunately, due to financial constraints, this is not possible. The board will continue to pursue this possibility.

Until a method for distribution of these guidelines has been developed, the board wishes to make all health care providers aware that these guidelines have been adopted and should be included in the documents that a patient signs prior to surgical treatment for breast cancer.

If we can be of any further service, feel free to call me at 548-6245.

LEO B. RODBY
Executive Secretary
Board of Medical Examiners

Ed. Note: This is the information to be given to patients:

Guidelines for Methods of Treatment for Breast Cancer

I. Biopsy: removal of a breast lump or portion of breast tissue
 A. One-stage procedure: tissue removed is examined by a pathologist and frozen section made to confirm diagnosis; if cancer is present, prior agreed upon surgical treatment is performed immediately.
 1. Advantages: one surgery and anesthesia
 2. Disadvantages: decision for treatment made before diagnosis known or extent of disease established
 B. Two-stage procedure: tissue removed is examined by a pathologist and final report issued in 1-3 days; if cancer is present, patient and physician discuss ways of treating cancer; consultants or second opinions may be obtained before further treatment.

NOTE: A period of up to 2 weeks following biopsy is a safe period for decision-making, but a longer delay before beginning treatment may have a harmful effect.
 1. Advantages: time to discuss and consult about further treatment after diagnosis is known.
 2. Disadvantages: may require two separate surgical procedures and anesthesias.

 C. Fine-needle aspiration: removal of tissue cells by needle and syringe for analysis.
 1. Advantages: can be done in physician's office and can be repeated.
 2. Disadvantages: more difficult to interpret cells; less tissue to examine, and increased risk in missing cancer cells.

II. Mastectomy: removal of breast
 A. Modified, Radical or Total Mastectomy with removal of armpit (axilla lymph nodes)
 1. Most common treatment for breast cancer.
 2. Removal of entire breast including a portion (ellipse) of skin with the nipple; additional removal of lymph nodes in armpit to see if cancer has spread.
 3. Advantages:
 a) removes all tumor-bearing tissue in breast (60% of breasts show more than one cancer site)
 b) retains most or all of chest muscles, and retains muscle strength of arm, swelling of arm less frequent
 c) reconstructive surgery possible to improve cosmetic appearance
 4. Disadvantages:
 a) removal of entire breast with some overlying skin and nipple
 b) some patients have swelling of arm
 B. Radical Mastectomy: removal of all tissues as in total mastectomy but also chest wall muscles
 1. Used for advanced cases; large tumors; tumors extending deeply onto underlying chest muscles
 2. Advantages: removal of all breast tissue and armpit lymph nodes involved by cancer, with wide margin of tumor-free tissues
 3. Disadvantages:
 a) cosmetic appearance less satisfactory and reconstructive surgery less successful
 b) arm swelling, loss of muscle power of arm may occur

III. Local excision plus radiation (lumpectomy; segmental or quadrant resection)
 A. Removal of involved tissue, with or without some armpit lymph nodes, followed by X-ray treatment to breast and armpit.
 1. Advantages:
 a) Breast is preserved
 b) Minimal temporary changes of skin; mild to moderate increased firmness of breast
 c) Survival and recurrence results appear to compare favorable with mastectomy
 2. Disadvantages:
 a) Reserved for early cancers (1-1 ½ inches) or persons who cannot tolerate major surgery
 b) Size and shape of breast, size and location of tumor may produce less than desired cosmetic appearance
 c) Requires daily outpatient visits for 4-6 weeks and possible short hospitalization for radiation "boost" to excision site
 d) In small number of cases, mastectomy may be necessary later. Other side effects of radiation

such as lung scarring and bone marrow effect may occur.

IV. Chemotherapy: use of drugs or chemicals to circulate throughout the body and destroy cancer cells
 A. Given as "adjuvant" treatment after surgery or radiation if the likelihood of spread of the cancer has occurred.
 B. Given at time of recurrence of the disease.
 C. Hormone treatment for tumors shown to be sensitive to hormone changes; usually fewer side effects than drugs.
 D. Advantages:
 1. Increases effect of primary surgical or radiation treatment by reducing risk of disease recurrence or inhibiting growth of cancer cells in body.
 E. Disadvantages:
 1. Side effects may occur such as hair loss, nausea, bone marrow depression, anemia, loss of appetite, and fatigue.
 2. Not used alone; preceded by at least an excision of tumor.

V. Other
 A. Extended radical mastectomy: extension of radical mastectomy to remove more tissue including lymph nodes beneath the sternum (breast bone); for highly selected cases; rarely used.
 B. Simple mastectomy or subcutaneous mastectomy: removal of breast tissue, with skin and nipple for simple mastectomy, without skin and nipple for subcutaneous mastectomy.
 1. For persons with pre-cancer diseases of the breast (prophylactic) or elderly/frail who cannot tolerate total mastectomy.
 2. Disadvantages of subcutaneous mastectomy: does not remove all breast tissue or nipple and cancer may still occur in these areas.
 C. Radiation following mastectomy: in some cases radiation treatment may be given after mastectomy to destroy any remaining tumor cells in the area.
 D. Reconstructive (plastic) surgery
 1. Restoration of form of the breast after mastectomy to increase the cosmetic appearance.
 2. Should be discussed before mastectomy to help plan and decrease subsequent surgeries.
 3. Includes breast prostheses implants or surgical transfer of body tissues.
 E. Clinical trials and protocols: controlled trials for evaluating new methods of treatment; if asked to be a part of a trial or protocol you should be fully informed about the procedures and safeguards before giving your consent.

Summary

The treatment of breast cancer is a highly individualized treatment which varies with each patient, the type of tumor present, its extent of involvement at the time of discovery, and its probable response to the different methods of treatment. The above outline has tried to give you basic information on the different forms of treatment. It is important that you discuss your particular situation with your physician or physicians before making a decision and giving your consent for your own treatment.

Guidelines adopted by the Board of Medical Examiners on September 21, 1983.



The Reference Committee

Procedure

The House of Delegates of the Hawaii Medical Association has used the reference committee format for many years as a way to clear and formalize its agenda at the annual meetings. When the House then holds its decision-making session, much of the work involving the pros and cons of policy, either *de novo* or for change, has been done. Hearings before the reference committees allow for membership input, usually unrestricted as to time and rarely restricted by the committee chairmen.

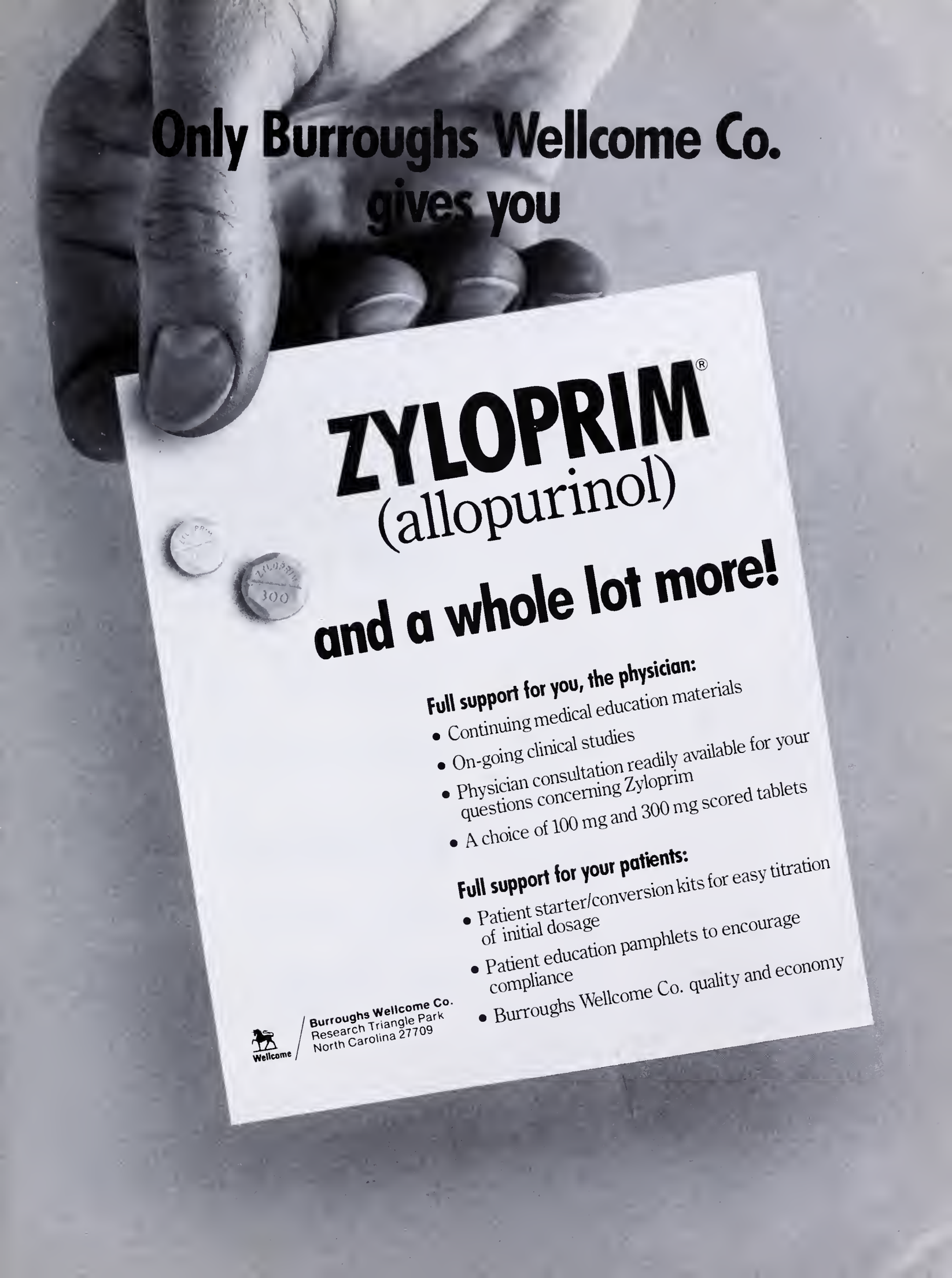
That's it as far as the individual members of HMA are concerned. The delegates, however, have another go at the issues on the floor of the House up until a final vote is taken, i.e. the pros and cons can be argued once more. The final vote is that of the representatives of the membership, for the most part, who have been duly elected as delegates or alternates at the county society level. This is how a representative democracy works. It is a good way; it is probably the best way. This is the way it is done at the AMA, the American Academy of Family Practice and many other specialty societies and in all the states. (Our own experience has been in serving on such committees and on occasion chairing one at AAFP and HMA levels.)

The nitty-gritty of this system is the input by the membership directly at the reference committee arena.

Throughout the year, many HMA members serve on standing and *ad hoc* committees that deal with issues concerning physicians, their patients and the community. Most members take their responsibilities seriously and attend faithfully. These committees submit their final reports directly or indirectly to the House of Delegates (HOD). Any individual HMA member, however, can reach the ultimate decision-making body, the House of Delegates, directly via resolutions. Members are forever being encouraged to submit their pet proposals or peeves via the resolution process, which are then "heard" at these reference committee session before being referred to the HOD with recommendations for or against. None will ever be "buried in committee," as all too often happens to bills introduced at the state legislative sessions. None is killed at the whim of a reference committee chairman.

One aspect of our reference committee system, good as it is, needs improvement, however. Therein lies the thrust of this editorial.

Continued on page 66


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Continued from page 64

When, of an afternoon, 3 reference committee hearings are going on simultaneously in 3 separate rooms sometimes 3- to 5-minutes walking time apart; when each has an agenda that the chairman does not follow *ad seriatim*, it becomes difficult for delegates and interested members alike to be present and voice opinions as a particular resolution or policy comes up. This happened in Wailea on Maui at the 127th annual meeting of the HMA's HOD last October, this generated frustration, anger and disgust.

The remedy is simple. In the interest of everyone's precious time, it is not practical for such hearings to follow one after the other. Instead, it is proposed that the rule of the House stipulate that all reference committee chairmen (a) must stick to published agendae, or publish changes well in advance of the session, (b) must notify (by messenger or otherwise) a member or delegate that his/her pet concern is coming up for a hearing in a few minutes, and (c) must arrange for regular committee chairmen, commissioners, officers or authors of resolutions to be present at these hearings at appropriate times. It also might make for smoother proceedings if delegates and members are apprised of their obligation to notify reference committee chairmen of their interest and of their whereabouts and how they can be reached. This would entail a publishing of reference committee agendae well enough in advance to allow for such knowledge to be widely disseminated to all members of HMA.

Unfortunately, at Wailea, the traditional usual courtesy of extending such notification, by some reference committee chairmen, was not followed. Therefore, we plead for these rule changes or additions when the HMA holds its 128th annual meeting.

J.I. Frederick Reppun, M.D.

Ethics and Fraud

Recent publications, including Science,[1] the popular press and some professional symposia[2] have drawn attention to a regrettable dishonesty in a few investigators in their establishing of "facts." The ramifications of adding questionable data to the scientific foundation underlying medicine are clear. Researchers have an obligation to follow the first rule of ethics, that is, to report only honest observations.

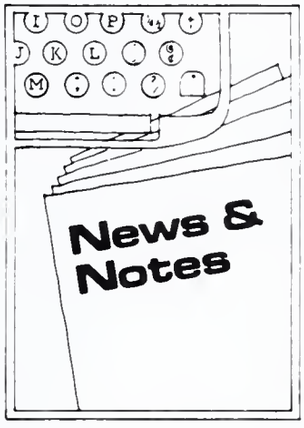
A second principle is that research observations belong to the principal investigator until he releases them in a reputable fashion, such as in a scientific paper.[3] A recent incident accidentally came to light in which a junior colleague, whose participation in a research project consisted only of examining a few subjects in the absence of the principal investigator, obtained unauthorized access to the finished data; with the help of a hired consultant, he reviewed the literature and analyzed the data statistically. What his further intentions were can only be guessed at.

Surely MacLachlan is correct in urging us to be alert to these possibilities and to report them.[4] The recent actions of the Association of American Medical Colleges[1] and of Yale University[5] are very supportive in this respect. MacLachlan has recommended that a system—a protocol—be established, in each institution conducting research, so that irregularities can be reported, investigated and dealt with in a formal way.

D.G. Massey, M.D.

REFERENCES

1. Culliton BJ. AAMC speaks on coping with fraud. Science 1982; 217-:226-8.
2. Broad WJ. NIH grapples with misconduct. Science 1982; 217:227.
3. CBE Style Manual Committee. CBE style manual: a guide for authors, editors, and publishers in the biological sciences. 5th ed. rev. and expanded. Bethesda, MD: Council of Biology Editors, Inc.; 1983. pp 1.
4. MacLachlan TB. Professional integrity. Annals RCPSC 1983 16:207.
5. Broad WJ. Yale announces plan to handle charges of fraud. Science 1982; 218:37.



Henry N. Yokoyama, M.D.

Elected, Honored & Appointed

Harry L. Arnold Jr., our editor-in-chief, was named "Practitioner of the Year" at the 42nd annual meeting of the American Academy of Dermatology in Chicago . . .

Related kudos to our new HCMS officers . . . **James Lumeng,** president; **Allan Kunimoto,** president-elect; **Philip McNamee,** secretary; and **Lee Simmons,** treasurer . . .

Manuel Abundo was elected chief-of-staff, Wahiawa General Hospital; **Edmund Schroeder,** vice-chief; and **William Clevenger,** secretary . . . **Jeanette Chang,** chief-of-staff, Kapiolani-Children's Medical Center, was named chairman of the Hawaii Chapter, American Academy of Pediatrics . . . **John Hardman** was elected president of the Hawaii Medical Library . . . Other officers are **Ann Catts,** first VP; **Robert Wilkinson,** second VP; **Charles Judd,** secretary; and **Man Kwong Au,** treasurer . . .

Noboru Oishi, director of the Clinical Research Program at the Cancer Research Center of Hawaii since 1974, has been named to the Cancer Clinical Investigation Review Committee of the National Cancer Institute . . .

Julia Frolich is vice chairman of the Search Committee for the next UH president while **Richard Mamiya** is one of 7 community leaders appointed to the Screening and Advisory Committee, which will evaluate the UH presidency candidates found . . .

Herbert Shiroma, only recently appointed president of Castle Medical Center in July, tendered his resignation in December for personal reasons . . . **Ruby De Alday** of Kauai retained her AFP membership by completing her educational requirements . . .

Life in These Parts

Kung Hee Fat Choy! It's the year 4682 on the Chinese lunar calendar. As of February 2, the Chinese Year of the Rat is with us and the astrologers predict the next 12 months will see a boost in world economy and a boom in the birth of talkative babies . . . The Year of the Rat begins a new 12-year cycle of animals . . . The rat's foresight and attention to detail contributes to business skills and to great fortunes . . . (Ed. We still don't understand the bit about talkative babies, but we know there is some rationale somewhere.)

Then there was the wag who suggested that attorney Tom Jordon and physician **David Eith** who operates out of the same Kalakaua Avenue building, put up a sign saying, "Pills & Wills" (Dave Donnelly's Hawaii, November 9).

Ben Azman of Maui did not even belong to a party last year. This year, he is the new head of the Maui GOP . . . Ben says Reagan is a winner in 1984 because of the economic turn around . . . Ben feels that the state is moving towards developing a stronger middle class of professionals and independent business people. This group will have less tolerancy of the union-based politics and special deals of the past, and just naturally turn to the GOP to provide an alternative . . . Our friend **Pat Saiki** is the new GOP chairperson for the state.

In 1983, the legislature bailed out Medicaid with a $10 million appropriation and orders to cut payments to physicians by 10% . . . In the coming session, legislators must deal with a projected $30 million shortfall in the 1984-85 program. DSSH and legislators plan to zero-in on hospitals and nursing homes, which account for 66% of Medicaid's $165 million annual tab.

Senator Norman Mizuguchi, chairman of the Senate Human Resources Commit-



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tee, says, "We didn't hit institutions this previous year, but we're looking at developing reforms in this area so that the state can get a handle on these runaway costs." He suggests that the state look at the prospective payment system initiated by the Medicare program. Hawaii Medicaid officials concur. In the House, Rep. Marshall Ige, chairman of the Human Services Committee, also has Medicaid as top priority. Apparently, 40¢ of the Medicaid budget goes toward long-term care, an area ripe for cost controls. He recommends a moratorium on the number of beds in skilled nursing homes and the development of other community-based services and options to assist those needing long-term medical assistance, that is, personal care attendants, senior day care centers, and day hospitals for the elderly. Ige is considering a "controversial" bill that would make a spouse and children responsible for an elderly person's medical care . . .

Wahiawa General Hospital opened its first satellite clinic in the Ewa Beach Professional Building with 3 examinating rooms, a consultation office, reception area and waiting room, and manned by **Timothy Au** and **Arnold Seid**. Wahiawa General plans to enter the primary care field by establishing several such clinics, thus boosting its visibility in the Leeward and Central Oahu areas . . .

Bella Bueno, 28, who was flown by a White House-ordered jet to Pittsburgh Presbyterian for a heart-lung transplant, died while waiting for a donor to correct her pulmonary hypertension . . . Cardiologist **Eugene Magnier** claims that, had she been sent 6 months earlier, she could have made it. An application sent 6 months previously to Hawaii's Medicaid had been denied because Medicaid guidelines prohibited state financing for "experimental surgery." Her attorney David Turk took her case to court and Circuit Judge Ronald Moon ordered the state to pay for the surgery. The cost of the transplant and related expenses was estimated between $40,000 to $150,000, half of which the federal government agreed to pay.

Despite the special ruling in the Bella Bueno case, Earl Motooka, state Medicaid administrator, said the state will continue its policy of non-payment for organ transplants deemed experimental. The kind of operation Bueno was scheduled to have "is a catastrophic expense—something that we can't stand." **Norman Shumway** of Stanford has been quoted as saying that "liver, heart, and heart-lung transplants are no longer experimental and that third-party payers are calling them experimental as an excuse not to finance such operations."

Former health department director **Richard K.C. Lee**, 74, says the state Department of Health needs shaking up by the Board of Health members . . . Richard says that as an advisory committee, the board doesn't have the capacity to save the department from the dogs, even if it agreed that's where the department was heading . . . All the board members, including **John Char, Ralph Beddow, Robert Berry,** and **Roger Brault,** et al. agreed that it was time to become more active . . .

Albert Yuen, HMSA president, announced that health-care cost-containment efforts by HMSA has resulted in a 14.7% savings in member dues. Hence, instead of the usual 15% to 25% annual increases as in the past years, the increase will be only 5%. In fact, plans 5 and 6 will have no dues increase . . . Albert reports a $30 million savings in 1983 due to the cost-containment measures . . .

A legislative auditor's report reveals that, of 42 states and districts surveyed, Hawaii pays the 3rd highest medical bill per workers' compensation case. Hawaii ranks only behind Washington, D.C., and Alaska. The Hawaii employer pays the highest average rate in the U.S. for workers' compensation insurance. It seems that chiropractors' charges make up 16% of medical costs, and their average charge is higher than that of other health practitioners and their frequency of visits substantially higher . . .

We enjoyed Richard Adler's "Suggestions for new year's resolutions" in his column "Medical Matters." To wit: (1) Stop smoking. (2) Wear seat belts at all times. (3) Keep children out of the back of pickup trucks. (4) Limit alcohol consumption. (5) Do not drive after drinking alcoholic beverages or smoking marijuana. (6) Begin a regular exercise program. (7) Change your diet so you eat less fat and red meat. (8) Reduce the amount of salt and shoyu use. (9) Avoid medications whenever possible. (10) Buy a smoke detector and a fire extinguisher. (11) Put poisons in locked or inaccessible cabinets. (12) Wear sun-screen or sunblock when you are outside for long periods. (13) Increase the amount of fiber in your diet. (14) Plan time to smile and laugh with your family. (15) Hug and kiss as much as you can. (16) Try to get your finances in order . . .

Hors de Combat

The AMA leadership has recommended that insanity be eliminated as a defense in criminal trials, but retained as a consideration in sentencing . . . John Coury Jr., chairman of the board of trustees, said that under the AMA policy proposal if a person commits a crime, he should be held accountable for it. If after being found guilty, it is also determined that the person is mentally ill, he should receive medical treatment. The proposal was prompted by the acquittal of John Hinckley Jr. on attempted assassination charges in the shooting of President Reagan . . . Hinckley was found innocent by reason of insanity . . . "It seems the insanity defense is being used to try to escape re-

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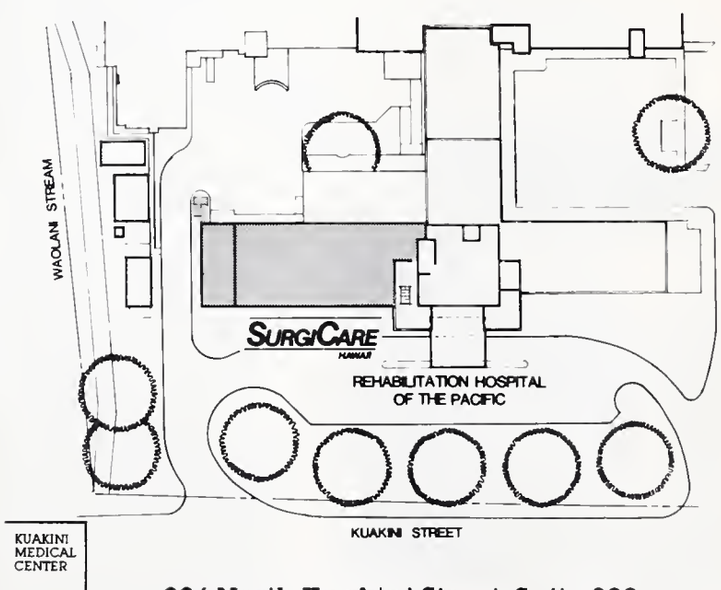
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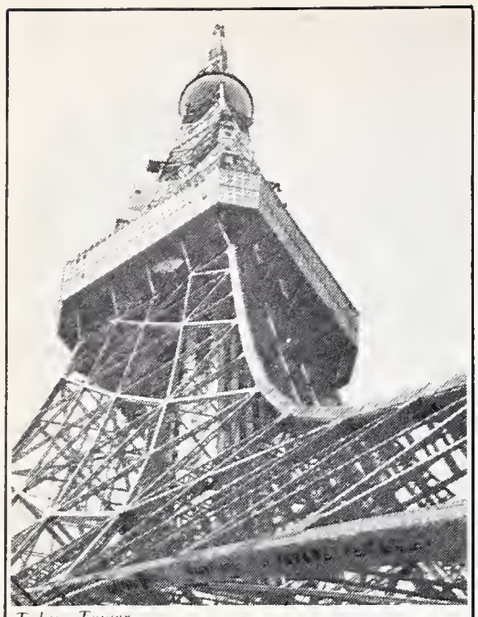
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sponsibility for just about any crime and this is destroying the credibility of the judicial system," said Coury . . .

The AMA House of Delegates resolved that "the use of the choke and sleeper holds always raises the imminent possibility of residual behavioral problems and brain dysfunction," and adopted a policy opposing their use to subdue prisoners and the mentally ill. (Honolulu police are forbidden to use the choke hold, but they use the sleeper hold.)

More than a third of the domestic budget cuts that President Reagan is considering for the next fiscal year would be in Medicare and Medicaid programs that account for $1 of every $10 spent by the federal government. The major proposals would:

Freeze the fees paid to physicians treating Medicare patients at their current levels for a year, instead of letting them rise to cover inflation.

Introduce a "catastrophic" health insurance feature into Medicare. The patient would pay more than now for the first 60 days in hospital, but Medicare would pick up all further costs for the year. Short-term patients would pay more than they do now, but those with long-term illnesses would be protected against costs above $1,530 a year.

Over a 6-year period ending in 1990, increase from 25% to 35% the share of Medicare's doctor-bill insurance program (Part B) financed through premiums charged to patients. The current $14.60 a month premium would rise to $40.50 in 1990.

Provide for automatic annual increases, roughly keeping pace with inflation, in the dollars a year a Medicare patient must pay toward doctor bills before Medicare payments kick in each year.

Allow persons eligible for Medicare, if they so choose, to receive a government voucher and buy their own coverage privately.

Under Medicaid, require the states to impose nominal charges on low-income people, such as $1 or $1.50 per doctor visit or $2 a day for hospital services. At present such charges are optional for the states.

Extend a cut in federal Medicaid payments, enacted in 1981, by reducing 3% the amount of federal matching funds that each state otherwise would get in fiscal 1985.

Maui Memorial Hospital staff physicians in radiology, pathology, and ER received letters from Abelina Shaw, administrator of the county-state hospital system, saying if they didn't sign the health department's contract by December 23, they would be dismissed within 30 days. The main issue is a clause that would allow either the state or the doctors to terminate the contract for no cause with 30 days' notice . . . Other points of issue are a clause designating the health department director as final arbitrator in any dispute and the state's unwillingness to continue paying an administrative fee to the head of each department.

Miscellany

"When did you talk about Kakimochi?" "The Arare . . ." (A **Tad Iwanuma** original as related by MSD rep Claire Loo)

Three local police recruits were being interviewed by the Chief. "Officer White, who killed Jesus Christ?" "The Hawaiians, of course." "Officer White, you are assigned to Waianae." "Officer Kealoha, who killed Jesus Christ?" "The haoles." "Officer Kealoha, you are assigned to patrol the Waikiki district." "Officer Manuel, who killed Jesus Christ?" "Gee, Chief, that's a tough one. Let me think about it." When Officer Manuel got home, his wife could sense that something was wrong . . . "Tough day eh?" "Yeah, my first day on duty and the Chief assigns me a murder case." (As related to Claire Loo by **Bill Davis** . . .)

Moki's Laws

(As told by **Bill Davis** to MSD rep Claire Loo)

"Be wary of the local who says he lives in Kahala and gets a district exception to attend Farrington."

"When all else fails, say you are a tourist."

Life in These Parts II

John McDougall, M.D., and wife Mary have written a 340-page book ($14.95), "The McDougall Plan for Super Health and Life-Long Weight Loss." John says, "From my point of view, anyone eating the American diet is ill . . . Americans are among the most malnourished people in the world." His book recommends a starch-based diet supplemented with fresh fruits and vegetables . . . The premise is that humans originally were plant-eaters. No red meat. No chicken. No fish. No cheese. No butter or margarine. No eggs. No milk. No salt. No sugar etc. etc. . . . As a young country doctor in Honokaa, he saw elderly Japanese and Filipino men retire from the plantation and start new families. These spry old men whose diet consisted mostly of rice, were a revelation to John . . . Fathering children at 75 years of age demonstrated "function par excellence."

Oncology Conference

A 52-year-old Japanese accountant with undifferentiated CA of the Rt lung was described as a 1 ½ pack smoker for 40 years . . . Moderator **Glenn Kokame** commented wryly: "That means he started smoking at age 12 . . ."

Stemmy says: "Our series show that heavy smoking and drinking correlates with small cell and edpidermoid CA of the lung, but not with adenoCA . . . Japanese have one-half the increase of lung CA in Hawaiians because Hawaiians are heavier drinkers . . ."

Stemmy says: "I feel very uncomfortable about long-term use of cimetadine in gastric ulcers . . . The votes are not all in as to its carcinogenic properties . . . The same applies to long term use of Valium in gastric ulcers . . . Just don't use Valium in pernicious anemia patients . . ."

Miscellany

St. Peter noticed that the Devil's section of the Pearly Gates was in disrepair so he asked the Devil to have his section repaired . . . The Devil refused to comply . . . St. Peter threatened, "If you don't get your gate repaired, I'll sue . . ." The Devil countered, "Go ahead and sue . . ." St. Peter said, "I'll get a lawyer . . ." The Devil smiled, "Where are you gonna get a lawyer . . . We got them all . . ." (As told by PHN Louise Tokumura)

Miscellany

From Lou Boyd's "Just Checking": One physician in 5—worldwide—practices in the Soviet Union . . . Surgical incisions heal faster when stitched with sterilized coconut fibers than with cat gut—doctors in the South Pacific proved that.

From "At Wit's End," Erma Bombeck: "There are two things that should never be researched. One of them is what makes people laugh. The other is the lovemaking habits of consenting adults.

"What is significant between the two is the research. No one has been able to pinpoint what makes people laugh because people are reluctant to talk about it. On the other hand, when it comes to sex research, men and women sing like canaries. We know that more people make love on Sunday than on any other day of the week. We know that the peak hours are 10 p.m. and 7 a.m. We know that more women sleep next to the wall than men. We know that men wearing boxer shorts are more likely to become fathers. We know that jogging increases sexual desires. We know that garlic is still the most effective form of birth control. We know that after 60, sex is termed 'interesting.'

"I would have been willing to bet that by this time, every single scrap of data regarding lovemaking had been fed into a computer and analyzed.

"Well, I was wrong. A team of researchers was curious that, with all the love songs about the moon, did the moon really have an effect on the hours people made love.

"Husbands and wives filled out separate questionnaires, noting the precise time of lovemaking. Then researchers calculated the exact position of the moon at that time. The position of the moon made no difference whatsoever."

◊

PHYSICIANS



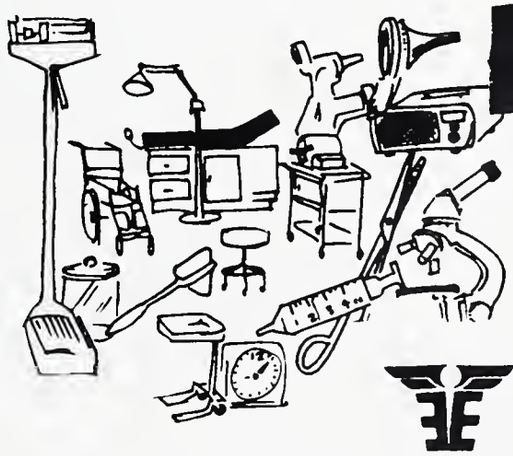
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At Work: House of Delegates



Drs. Neal Winn, Philip Hellreich, E. Lee Simmons, first row; 2nd Row—Drs. Mahmood Mirzai, R. Joe Harrison, Nadine C. Bruce, Russell Hicks, Robert Sitkin are identifiable.

More Pho



Drs. Thomas Cahill, Herbert Uemura (Speaker of House—84), Sakae Uehara.



Award: Dr. Katsuyuki Izumi, Mrs. Pat Hunter (Journalism Award from Advertiser), Dr. Charlotte Florine.



Left to right: Audi 5000S Wagon, Porsche 944, Porsche 911 Carrera Targa, Porsche 911 Carrera Cabriolet, Audi 4000S, Porsche 911 Carrera Coupe, Porsche 928S, Audi 5000S.



from the 1983 HMA Meeting on Maui



Front Row—Drs. Jeffrey Nakamura, Thomas Chen, Don Parsa, Jorge Camara, John Drouihlet.
Back Row—Drs. John Spangler, James Lumeng, Rit Liu.



Drs. William Iaconetti, Glenn Haines.

At Play



Running Champs: Drs. Robert Laird, John Lewin, Robert Yap.



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Pseudomonas Epidermal Necrolysis

George O. McPheeters, M.D.,*
Clifford J. Straehley, M.D.,**Honolulu.

• *Pseudomonas aeruginosa is an unusual primary pathogen in non-hospitalized immunologically competent patients free of underlying disease. It has the capacity for fulminant tissue destruction when it becomes locally established. We report 2 cases of "pseudomonas epidermal necrolysis," presenting with the appearance of full thickness burns in previously healthy patients. We discuss the organism's pathophysiological characteristics and factors predisposing to pseudomonas colonization and infection.*

Primary cutaneous infection with *Pseudomonas aeruginosa* has received attention in recent literature.[1, 2] The propensity of this organism to complicate wounds in compromised hosts and burn patients is well known. Ecthyma gangrenosum is a dermal manifestation of pseudomonas septicemia, with a typical gross and histologic appearance.[3] However, with the exception of "pseudomonas folliculitis," reported to be acquirable from spas and whirlpools, as well as the "green nail" syndrome and toe-web infections, this organism is rarely a primary pathogen in non-hospitalized patients except in unusual circumstances. Our purpose here is to report 2 patients with primary pseudomonas epidermolysis and to point out that *Pseudomonas aeruginosa* can be an extremely virulent primary pathogen in noncompromised patients. We suggest that certain conditions increase the likelihood of its role in destructive skin infections.

Elderly patients with cutaneous ulceration of the extremities are often referred for early surgical evaluation because of the frequent association with atherosclerotic ischemic disease, diabetic angiopathy or venous insufficiency. The patients reported here each presented with a very large necrotic lesion of the distal lower extremity, both of which had the gross appearance of a third degree burn. Neither patient manifested vascular impairment and the appearance of the lesion was felt to be a direct result of the unique pathogenicity of the offending organism.

Case Reports

Case I: A 74-year-old part-Hawaiian woman noted pain and swelling over her left medial malleolus and quickly sought medical attention. She was treated as an outpatient for a cellulitis with cloxacillin for 1 week, during which the lesion enlarged and began to break down superficially. The initial culture had grown a few Beta-hemolytic streptococci. She was continued on cloxacillin for several days, but because of progression of the lesion was admitted to the hospital. There was no known antecedent trauma to the involved part. There was no history of diabetes, chronic infections or vascular disease. She took no medications other than the cloxacillin. She had no allergies or significant exposures. When examined she was afebrile, with normal vital signs and no significant physical findings except a 12 x 8 cm. lesion over the left medical malleolus. It was beefy red with extensive areas of skin necrosis. Its margins were discrete. No inguinal adenopathy was present. The extremity had good sensation, warmth and capillary refill. Both femoral pulses were 2+/4 and the popliteal 1+. Pedal pulses were not palpable, but readily discernible by Doppler examination. Ankle/arm pressures were 0.7 on the left and 1.0 on the right.

Laboratory evaluation on admission showed a hemoglobin of 10.3 with normal indices, a white cell count of 12,100 with 6 bands, normal urinalysis and electrolytes. Fasting blood sugar was 98. BUN was 17 and creatinine was 1.1. Coagulation profile was normal. Serum protein electrophoresis was of a normal pattern, with a total protein of 6.7 and an albumin of 3.3. Cultures of the wound taken on admission grew *Pseudomonas aeruginosa* and *E. coli*. Subsequent cultures grew only pseudomonas.

The patient was started on ticarcillin and her wound extensively debrided on the first hospital day, with minor debridement on a daily basis thereafter. Fig. 1 depicts the extent of the lesion several days after admission. Successful skin grafting was accomplished on the 20th hospital day. The patient was discharged on the 20th day after admission.

Case II: An 81-year-old Caucasian woman presented with a 3-day history of erythematous swelling, pain and tenderness over the left lateral malleolus. There was a question of a minor abrasion suffered on the ankle a day or two prior to the onset of her symptoms. Though she complained of progressive malaise and feeling feverish, she did not appear toxic and was treated as an outpatient with oral penicillin for an apparent cellulitis. She was admitted 5 days after onset of her illness because the lesion extended and began to break down. She was not diabetic, had no systemic disease and, despite her years, was given to daily ocean swimming. Physical examination disclosed an afebrile aged patient whose significant findings were confined to the left lower extremity. This was edematous and erythematous, with a 10x7 cm. area of skin slough from the lateral malleolus extending posteriorly, and having the typical appearance of a third degree burn eschar. There was a very scant amount of greenish purulent material which smelled "mousy." The foot had good sensation, warmth and capillary refill. Her femoral and popliteal pulses were full and without bruits. Dorsalis pedis pulses were palpable bilaterally and a left posterior tibial pulse was clearly audible by Doppler. Ankle/arm pressure ratio was 1.2 on the left and 1.1 on the right. Again, there was no evidence of venous insufficiency.

Wound culture on admission grew *Pseudomonas aeruginosa* in pure culture. Laboratory studies revealed a Hb of 14.2 with normal indices, a WBC of 11,000, with 5 band forms, normal urinalysis, normal coagulation profile and a creati-



Fig. 1
Case I: Full thickness necrotic lesion overlying the medial malleolus three days after the institution of treatment.



Fig. 2
Case II: Defect over the lateral malleolus resembling a third degree burn.

*Integrated Surgical Residency Program, University of Hawaii.

**Professor of Surgery; John A. Burns School of Medicine, University of Hawaii.

Accepted for publication December 1983.



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nine of 0.7. Serum protein electrophoresis was normal, with a total protein of 5.8 and albumin of 3.2. Fasting blood sugar was 96.

Initially the lesion did not respond to IV nafcillin and wound dressings. On the 6th day the patient had wide surgical debridement of the necrotic skin eschar. Cultures again grew pure *P. aeruginosa*. She was treated with ticarcillin and daily bedside debridement. Fig. 2 shows the extent of the lesion prior to split thickness skin grafting, which successfully resurfaced the wound 4 weeks after admission.

Discussion

"Epidermal necrolysis" refers to a phenomenon traditionally associated with *Staph. aureus* phage group II infections,[4] certain drugs,[5] ("toxic epidermal necrolysis") and rarely with Gram-negative bacteremia.[6] It is characterized by skin slough, along either an intraepidermal or subepidermal plane (with staph and drug reactions respectively),[7] producing a lesion similar to a cutaneous burn. Demling has suggested that when major skin loss occurs, these patients may be best managed in a burn unit.[8] We apply this term to the cases reported here because of the gross and histologic resemblance to a full-thickness burn. The rapidity with which tissue necrosis progressed in these lesions points to the importance of the proteolytic and other enzymes elaborated by *P. aeruginosa*. Because of the potential for rampant tissue destruction and the suggestion that local colonization with this organism may have significant systemic effects,[9, 10] early recognition of this process is important.

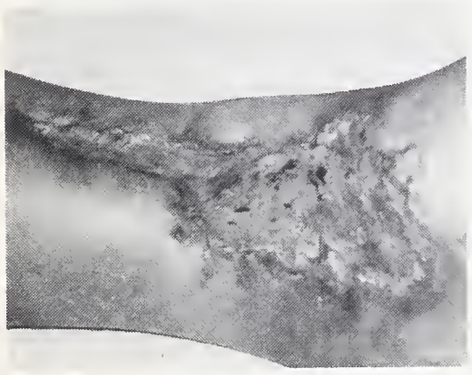


Fig. 3
Case I: Two weeks post-grafting.

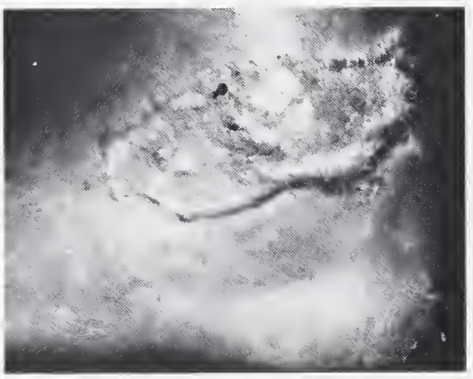


Fig. 4
Case II: Approximately five weeks after grafting.

P. Aeruginosa is the most common of a number of pseudomonas species implicated as pathogenic.[11] It is typically a problem only under certain circumstances and is rarely a primary agent in cutaneous infections. Exceptions include spa- or whirlpool-associated folliculitis, "green-nail" syndrome, toe-web infections and external otitis. In each of these, moisture or frequent submersion in water and warm temperature predispose to pseudomonas colonization.[12]

Both patients reported here became ill at the same time during a period of exceptional warmth and relatively high humidity. The average daytime high temperature during the 2-week period prior to their onset of symptoms was 89.5 degrees, with an average daily relative humidity of approximately 70%.[13] This would favor cutaneous colonization with pseudomonas.

Patients on broad-spectrum antibiotics are at increased risk of developing pseudomonas infections.[14] Exemplified in our case reports is the situation of an apparently mild cellulitis, empirically treated with antibiotics, leading to a rapidly progressive epidermal necrolysis.

We have alluded to the role of this organism's extra-cellular toxins and enzymes in its pathogenicity. There is experimental evidence that both proteases and exotoxins produced locally in wound infections have systemically significant effects in terms of diminished protein synthesis.[9] Liu has demonstrated the presence of lethal toxins, apparently protein exotoxins, in the heart blood of moribund animals in whom blood cultures for pseudomonas were negative.[15] *P. aeruginosa* is highly proteolytic and possesses elastase,[16] fibrinolytic,[17] and collagenase activities,[18] all of which contribute to local tissue destruction and may act in the genesis of visceral hemorrhage in septicemia. Additionally, pigments produced by this organism seem to be of biologic significance in their suppression of other bacterial flora promoting overgrowth with pseudomonas. In general, *P. aeruginosa* appears uniquely capable of very rapid full-thickness tissue destruction owing to all of these properties.

Recognition of these infections is not always straightforward until they are fully established, and even then the greenish exudate and typical odor may be lacking. Repeated careful culturing of even seemingly trivial skin infections is indicated when there is suspicion.

Management of *P. aeruginosa* epidermal necrolysis may require lengthy hospitalization. Wound care consists of aggressive, repeated debridement. The organism alkalinizes tissue to a pH of 8 or greater, and its toxic enzymes are most active in this environment.[19] Topical acidification is therefore a traditional and rational mode of treatment. Sodium bicarbonate, saline or other neutral and alkaline solutions under which the organism may proliferate should be avoided. Antibiotic therapy is essential and will usually be instituted on clinical suspicion of the presence of pseudomonas. As the infection resolves, antibiotics are discontinued, although it may be days or weeks before the wound is ready for grafting. With proper therapy, excellent results are achieved. (Fig. 3 and 4).

Conclusion

Pseudomonas aeruginosa can be a primary infecting organism in healthy individuals, particularly during hot and humid weather. Its proclivity to complicate lesions (e.g. burns and beta strep infections) with extensive tissue destruction demands an early appreciation of its presence. This is of particular concern in patients on antibiotics to which Pseudomonas is resistant. Appropriate therapy may include hospitalization, surgical intervention and carefully selected antibiotics.

REFERENCES

1. Sausker WF, Aeling JL, Fitzpatrick JE, et al.: Pseudomonas folliculitis acquired from a health spa whirlpool. *JAMA*, 239:2205-2207, 1978.
2. Washburn J, Jacobsen JA, Marston E, et al.: Pseudomonas aeruginosa rash associated with a whirlpool. *JAMA*, 235:2205-2207, 1976.
3. Fast M, Woerner S, Bowman W, et al.: Ecthyma gangrenosum. *Can. Med. Assoc., J.*, 120:332-334, 1979.
4. Melish ME, Glasgow LA: The staphylococcal scalded skin syndrome. *N. Engl. J. Med.*, 282:1114-1119, 1970.
5. Lyell A: Toxic epidermal necrolysis. *Br. J. Dermatol.* 68:335-361, 1956.
6. Plaut ME, Mirani M: Toxic epidermal necrolysis due to E. coli. *JAMA*, 219:1629-1632, 1972.
7. Amon RB, Dimon L: Toxic epidermal necrolysis. *Arch. Dermatol.*, 111:1433-1437, 1975.
8. Demling RH, Ellerbe S, Lowe NJ: Burn unit management of toxic epidermal necrolysis. *Arch. Surg.*, 113:758-759, 1978.
9. Snell K, Holder I, Leppla SA, et al.: Role of exotoxin and protease as possible virulence factors in experimental infections with Pseudomonas aeruginosa. *Infect. Immun.*, 19:839-845, 1978.
10. Liu PV, Mercer CB: Growth, toxigenicity and virulence of Pseudomonas aeruginosa. *J. Hyg.*, 61:485-491, 1963.
11. Gilardi GL: Infrequently encountered Pseudomonas species causing infection in humans. *Ann. Intern. Med.*, 77:211-215, 1972.
12. Marples RR: The effect of hydration on the bacterial flora of the skin. In: Maibach, H.I. and Hildrick-Smith, G., (eds): Skin Bacteria and their Role in Infection, New York: McGraw-Hill, 1965, pp 33-41.
13. Local Climatological Data. Monthy Summaries, National Oceanic and Atmospheric Administration, Asheville, N. Carolina, August-September 1979.
14. Finland J, Jones WF: Occurrence of serious bacterial infections since the introduction of antibacterial agents. *JAMA*, 170:2188-2197, 1959.
15. Liu PV: Extracellular toxins of Pseudomonas aeruginosa. *J. Infect. Dis.*, 130 suppl: 594-599, 1974.
16. Morihara K: Production of elastase and proteinase by Pseudomonas aeruginosa. *J. Bacteriol.*, 88:745-755, 1964.
17. Rangam CM, Gupta JC, Bhagwat RR, et al.: Fibrinolytic activity of Pseudomonas aeruginosa. *Indian J. Med. Res.*, 49:232-235, 1961.
18. Diener B, Carrick L, Berk RS: In vivo studies with collagenase from Pseudomonas aeruginosa. *Infect. Immun.*, 7:212-217, 1973.
19. Taplin D, Zaias N, Rebell G: Environmental influences on the microscopy of the skin. *Arch., Environ. Health*, 11:546-550, 1965.

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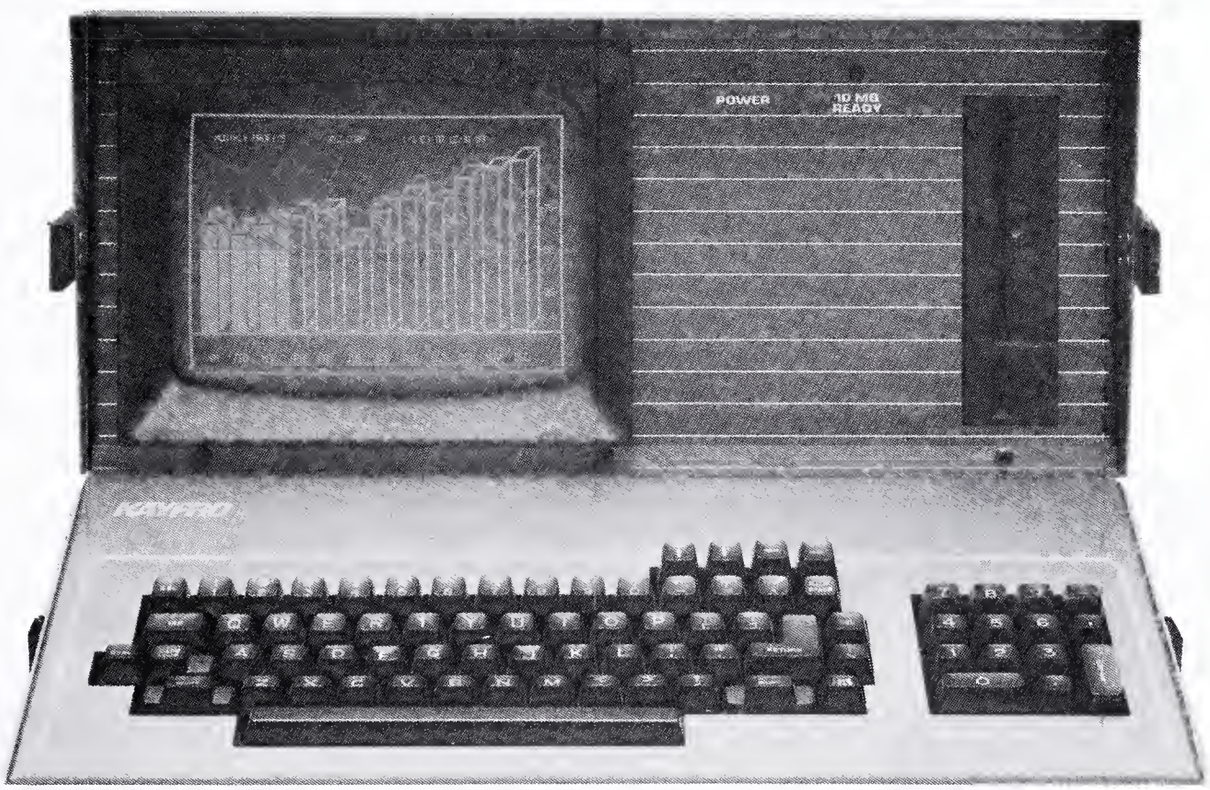
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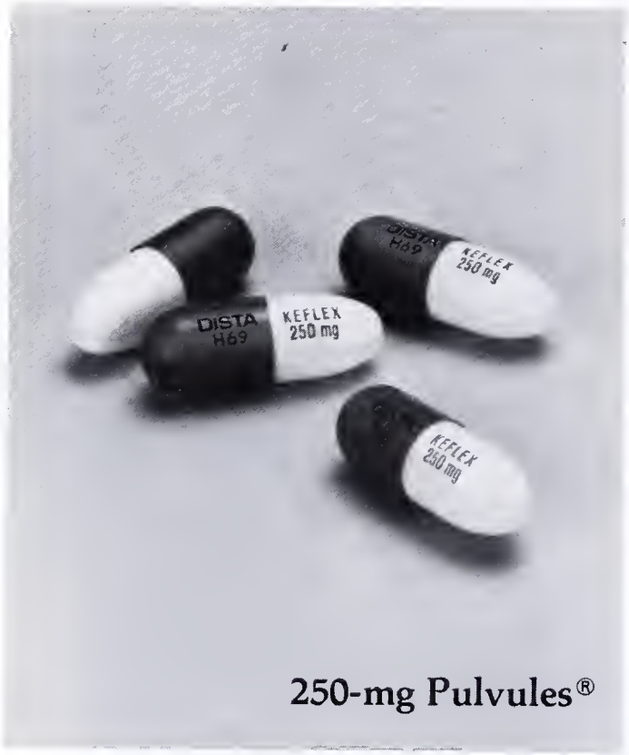


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Resuscitation of the Newborn —A Practical Approach

Rodney B. Boychuk, M.D., Honolulu*

• *Every delivery is an emergency until the baby is breathing.*[1] *The most common cause of neonatal mortality continues to be inadequate respiration at, or around, the time of birth. Nearly a third of all deaths during the first year of life occur in the first 24 hours following birth, and half of these are related to anoxia and pulmonary factors.*[2] *It is important, therefore, that resuscitative efforts be fast, organized, and accurate, with each member of the resuscitation team acting in accord with the others. A trained team (consisting of the respiratory therapist, nurse, and physician), each with specific responsibilities and acting in accord with the others, is ideal, but not always available in community hospitals.*

In this article, we will discuss the problem of resuscitation of the newborn, not as a simple procedure, but as a procedure involving dynamic evaluation before and during the actual resuscitation. An attempt to present a resuscitation protocol with varying members and numbers of the team will be presented, and targeted specifically at community hospitals, with the hope they will develop their own protocols from the material presented.

When is Resuscitation Necessary?

Resuscitation is necessary when respiratory and circulatory efforts are insufficient to maintain adequate tissue perfusion. Tissue perfusion, with adequately oxygenated blood, depends upon cardiac output and pulmonary ventilation-perfusion, thus the cardiovascular and respiratory systems are those of major concern. The central nervous and musculoskeletal systems, if affected, also may necessitate resuscitation.

Which Newborns Need Resuscitation?

Many groups of newborns may require resuscitation (Table 1), the commonest being those born following antepartum or intrapartum asphyxia. It is not possible to predict every asphyxiated baby; however, certain prenatal signs should alert us to the possibility of a problem. Fetal heart rate monitoring is probably the best single indicator of fetal asphyxia, with loss of beat-to-beat variability, persistent baseline bradycardia or tachycardia, and possibly late decelerations. The presence of meconium in the amniotic fluid also suggests an asphyxiated fetus which will require at a minimum suctioning, and possibly more vigorous resuscitation following delivery.[1]

Birth asphyxia may be attributable to either maternal, placental, or fetal factors. Maternal factors, such as arterial hypotension with reduction of placental blood flow, may result from spinal or epidural anesthesia. Fetal hypovolemic shock, severe anemia, or umbilical cord accident may lead to antepartum and intrapartum asphyxia with failure to breathe at birth.

Other infants who are at risk of ventilatory insufficiency and may require resuscitation at or soon after birth are the premature. Premature infants are more prone to the above factors, and in addition may have deficient alveolar surfactant and a poorly developed musculoskeletal system, which may result in respiratory failure.

Still other infants who may require resuscitation are those who suffer from birth injury. This group is becoming less common, as those infants at risk are being identified and an otherwise traumatic vaginal delivery is being replaced by Cesarean section. The grossly macrosomic infant of the diabetic mother is the classic example where vaginal delivery without injury may be impossible and Cesarean section is indicated.

Virtually all drugs cross the placental barrier to a greater or lesser extent. It is this fact that has led to the fourth group of infants requiring resuscitation, those suffering from "narcosis." Development anomalies of the cardiovascular, respiratory, CNS, or musculoskeletal systems may necessitate resuscitation. Amnionitis or infection, which is frequently associated with prolonged rupture of the membranes and prolonged labor, also may affect these organ systems necessitating resuscitation at birth. Severely anemic babies, either acute or chronic, also will require resuscitation.

Recognition of the high risk mother and fetus is an essential component of resuscitation if it is to be organized, accurate, and successful.

What Equipment is Necessary?

The basic equipment is noted in Table 2, and consists of an overhead radiant warmer, suction apparatus including DeeLee trap, bulb syringe and catheters, an oxygen supply, laryngoscope with various sized blades, endotracheal tubes, soft metal guide, a pressure-monitored anesthesia bagging apparatus, drugs and solutions, umbilical arterial catheter tray, various sizes of syringes, and miscellaneous equipment.

The drugs every member of the team should be familiar with for emergency use in the delivery room are: (1) epinephrine; (2) sodium bicarbonate; (3) calcium gluconate; (4) Neonatal Narcan; (5) 50% glucose; (6) albumin. Epinephrine is marketed prediluted and specially packaged in a 1:10,000 solution "syringe-vial," con-

TABLE 1. Neonates at Risk of Respiratory Depression Who May Require Resuscitation

1. Birth asphyxia: (ante or intrapartum)
 - A. Maternal
 - Arterial hypotension
 - Spinal or epidural anesthesia
 - Supine hypotensive syndrome
 - Hypoxemia
 - Maternal age over 35 years
 - Grand multiparity
 - Hypertension
 - Toxemia
 - Diabetes
 - Cardiorespiratory disease
 - Intrauterine infection
 - Postmaturity
 - Prolonged labor
 - Abnormal uterine contractions
 - B. Placental
 - Abruptio placentae
 - Placenta praevia
 - Other antepartum hemorrhage
 - Placental insufficiency
 - Diabetes
 - Toxemia
 - Hypertension
 - Antihypertensive agents
 - Maternal hyperventilation
 - Vasopressor therapy
 - C. Fetal
 - Umbilical cord compression
 - Hypovolemic shock
 - Severe anemia
 - Erythroblastosis fetalis
 - Passage of meconium
 - Pneumonia
 - Sepsis
 - Malformations
 - Abnormal heart rate or rhythm
 - Multiple pregnancy
2. Birth injury:
 - Cephalopelvic disproportion
 - Shoulder dystocia
 - Malposition of the infant
 - Multiple pregnancy
 - Difficulty forceps delivery
 - Breech delivery
3. Prematurity:
 - Deficient alveolar surfactant
 - Poorly developed musculoskeletal system
4. Narcosis:
 - Maternal analgesia (morphine, Demerol)
 - Maternal anesthesia—local or inhalation
 - Maternal sedatives and hypnotics
 - Other maternal drugs (Valium, alcohol, etc.)
5. Congenital anomalies:
 - Cardiovascular
 - Central nervous system
 - Respiratory system

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taining 10 cc. Sodium bicarbonate is marketed in the same type of "syringe-vial," but comes in two strengths—8.4% (1 mEq per cc) or 4.2% (½ mEq per cc)—both specially packaged in 10 cc volumes. (The 4.2% is preferred.) Calcium gluconate (10%) is marketed in a vial, and thus has to be drawn up for administration. Narcan is marketed in two forms: the adult form and now the prediluted form called "Neonatal Narcan." This too is in vial form and must be drawn up, one vial containing 2 cc, the strength of which is 0.02 mg per cc. Both the 50% glucose and albumin should be diluted before use, glucose for hypoglycemia and albumin for hypotension.

This equipment is useless, however, unless someone present is familiar with its location and operation. It is advisable, therefore, that all delivery rooms and nurseries be equipped with complete resuscitation trays, and that each area have immediately available a resuscitation cart that includes not only emergency resuscitation equipment, but also all other materials which may be needed (such as IV solutions, chest tube trays, umbilical arterial catheter trays, antibiotics, etc.). It is essential that all those delivering perinatal care familiarize themselves with the resuscitation tray and the resuscitation cart, and that daily checks be made to ensure presence and proper function of all types of equipment noted. In our institution, the respiratory therapy department is responsible for this duty.

Practical Aspects of Resuscitation

Following the notification of a "high risk" delivery, the resuscitation "team" sets in motion the practical aspects: (1) preparation; (2) assessment; and (3) management. Preparation (Table 2) occurs well in advance of the delivery. One person (the nurse or respiratory therapist) must be responsible for the physical presence and proper operation of all equipment, drugs, trays, etc.

If a full team is present, the nurse is preparing to start the timer when the cord is clamped and to monitor the infant's heart rate. She will either listen with a stethoscope or feel the pulse of the cord, and signify each beat of the neonate's heart by tapping her finger or hand in such a manner as to make other members of the resuscitation team aware. The physician is ready to evaluate the infant's respirations, suction-stimulate, and carry out further procedures if necessary. The respiratory therapist is preparing to administer oxygen, and assist with bag and mask ventilation or intubation if necessary.

Assessment, the second and most important aspect of resuscitation, is the physician's responsibility when a full team is present. If not, the most skilled nurse or respiratory therapist must take on this role. From the instant of birth until resuscitation is complete, this person evaluates the infant dynamically, assessing the degree of asphyxia, the initial resuscitation measures necessary, the response to resuscitation, further resuscitation measures necessary, etc. The dynamic assessment begins immediately after the baby's exit from the vagina, before the cord is clamped, and starts with evaluation of the neonate's respiratory effort.

Although the Apgar score has 5 values, there are 2 principal components that tend to determine the other 3. These 2 are respiratory effort and heart rate. It is first the respiratory effort and then the heart rate that are being dynamically monitored throughout the resuscitation, on a second-to-second basis. Once these 2 are nominal, evaluation of the other 3 components of the Apgar are made.

If the respiratory effort and heart rate are poor, most likely the infant will be cyanotic, respond poorly to the catheter, and have poor muscle tone (require resuscitation). If, however, the infant has a good respiratory effort and a good heart rate, almost always he will be pink, respond vigorously to the catheter, and have good muscle tone.

Generally, if a good respiratory effort and heart rate are present, the Apgar score will be between 7 and 10. We consider this a normal infant who should undergo brief suctioning of his upper airway, drying with warm towels and close monitoring. During this time, as in all resuscitations, the infant must be kept warm under an overhead radiant warmer.

TABLE 2.
Practical Aspects of Resuscitation

Preparation

1. The overhead radiant warmer: on and working.
2. Suction: on and working. Catheters (5, 6½, 8, 12) ready. Suction bulb ready.
3. Oxygen supply: on and working.
4. The laryngoscope and assorted blades: batteries fresh, bulb secure, light, a bright "white" intensity.
5. Endotracheal intubation material: 1, 2, 2½, 3, 3½ E.T. tubes ready.
6. Pressure-monitored anesthesia bagging apparatus: set up and ready.
7. The nurse: ready to start the timer and monitor the infant's heart rate.
8. The physician: ready to evaluate, suction, laryngoscope, intubate, and carry out further procedures.
9. The respiratory therapist: ready to administer oxygen, suction, assist with intubation or hand ventilation.
10. Other equipment: catheters, syringes, catheterization trays, chest tube trays, etc. drugs (epinephrine, sodium bicarbonate, calcium, gluconate, Narcan) immediately available or drawn up.

Principles of Asphyxia and Resuscitation

The principles of asphyxia have led to the rationale of the procedures used in resuscitation. Some of the principles are as follows:

(1) All newborn infants have some degree of respiratory acidosis and hypoxia at birth.

(2) The asphyxiated newborn has more profound respiratory acidosis and hypoxia, and, in addition, develops a metabolic acidosis without effective respiration. pH falls approximately 0.1 pH unit/minute, while carbon dioxide rises about 10 Torr/minute. Oxygen content of blood decreases to near 0 within 2.5 minutes of asphyxia.

(3) The type and degree of resuscitation necessary depends on the time resuscitation is started from the onset of asphyxia. If the infant is within the "primary apnea period," intubation may not be necessary; however, once the last gasp has occurred and the infant is in the "secondary or terminal apnea period," intubation and ventilation is a prerequisite to resuscitation. (Fig. 1).

(4) Resuscitation of the asphyxiated newborn, therefore, should include correction of the three components mentioned above; namely, ventilation for treatment of respiratory acidosis, 100% oxygen for correction of the hypoxia, and sodium bicarbonate for correction of the metabolic acidosis. Sodium bicarbonate should not be given blindly, but only if the infant fails to respond to the ventilatory component of the resuscitation procedure.

(5) Distention of the alveoli stimulates stretch and other pulmonary receptors which are connected to and result in excitation of the respiratory center. Ventilation alone, therefore, has a beneficial effect.

(6) 100% oxygen is an essential component of neonatal resuscitation. Oxygen is a very potent chemical stimulant of the respiratory center, resulting in an increased ventilatory drive. Oxygen decreases pulmonary vascular resistance, resulting in increased pulmonary blood flow, and, therefore, increased oxygen and carbon dioxide exchange. Once oxygenated blood reaches the bradycardiac hypoxic heart, there is an increase in heart rate, myocardial contractility, cardiac output, and tissue perfusion.

(7) Acidosis cannot be diagnosed clinically and therefore must be diagnosed by blood gas analysis.

(8) Neonates may require resuscitation because of one or more reasons (Table 1). The cause or causes must be sought and corrective action begun.

(9) Cooling results in increased oxygen consumption, increased metabolism with utilization of glucose and glycogen, increased lactic acid production, and increased acidosis (both respiratory and metabolic). The infant must be kept warm.

(10) Stimulating drugs (theophylline, caffeine, etc.) should not be used in the

treatment of asphyxia; however, Neonatal Narcan should be used if depression is secondary to narcosis from morphine or Demerol.

Management of the Depressed Neonate

Moderate depression: An infant born with only an occasional respiratory effort generally will have a 1-minute Apgar between 3 and 6. The color, response to stimulation, and muscle tone all will be depressed, the infant appearing hypotonic, cyanotic or pale, with gasping or intermittent respirations. The heart rate will vary depending on the degree of asphyxia, but initially is usually more than 100.

Following brief suctioning of the airway, 100% oxygen should be blown on the face, and the infant should be vigorously stimulated. The best way to accomplish this is by administering a sharp flick to the heel, then using a warm blanket, vigorously drying and rubbing the infant. If there is no response in a few seconds (i.e., breathing does not improve), make sure the airway is clear and no meconium is present, then ventilate the infant with positive pressure bag and mask, utilizing 100% oxygen.

Although it is ideal to have a pressure gauge and pressure limiting device attached to the bagging apparatus, this is not essential. Enough pressure must be used to move the infant's chest. Most often only 5 or 6 positive pressure breaths are needed before the heart rate rises and infant starts breathing spontaneously.

If, however, there is still no improvement, or the infant stops breathing or the heart rate begins to fall, laryngoscope, intubate, and then start IPPB with 100% oxygen. If you are unable to intubate, reposition the infant's head in slight hyperextension, pull the tongue and chin forward, place an oral airway if necessary, and bag and mask ventilate again using a higher pressure.

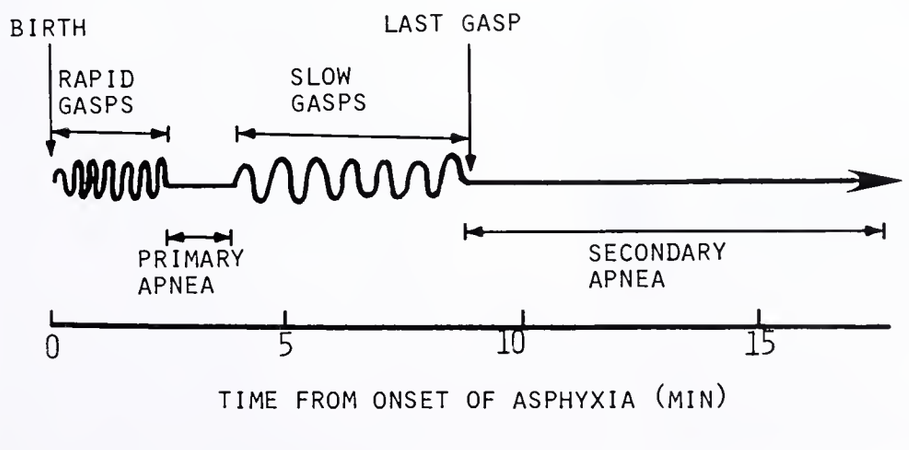
The moderately depressed infant (poor respiratory effort) is most difficult to assess in terms of management. On one hand we want the infant normalized as quickly as possible, while on the other hand we do not want to overtreat or to create any iatrogenic complications. However, the longer one waits, the more depressed the infant will become, and the more resuscitation will be required. Therefore, it is important to remember two things when considering management of a depressed baby: (1) don't hesitate and (2) the majority of these infants will respond to suction, oxygen, and stimulation (S.O.S.). The sooner oxygen and stimulation are administered, the quicker the Apgar will rise.

If you are resuscitating alone, do not worry about the infant's heart rate initially. Focus on his breathing. If he is not breathing, his heart rate will be low and will remain low until ventilated. Our most important role is to obtain spontaneous ventilation, therefore continue to bag and mask ventilate until spontaneous ventilation ensues. Remember to call for help. The second person should then monitor the heart rate, stimulate, etc.

Severe depression: The severely depressed infant usually is recognized antenatally, and generally has no respiratory effort and a heart rate less than 100, the Apgar score being between 0 and 2. This infant is severely depressed and management is clear-cut. If meconium is present, the oropharynx and then nasopharynx should be DeeLee suctioned after the head is delivered, but before the body is delivered. This will allow clearing of meconium from the upper airway, is now standard practice in perinatology, and should be done in all meconium-stained deliveries. Then, ideally, under laryngoscopic vision, the upper airway should be cleared and the trachea should be suctioned at least once, or more if the infant's condition permits.

Following this, intubation and IPPB with 100% oxygen should be started. If there is no heart rate, or if the heart rate is less than 60 and acceleration does not occur after 5 to 6 IPPBs, begin cardiac massage (stop after the heart rate accelerates to 100). If, despite adequate ventilation and external cardiac massage, spontaneous heart rate is not sustained at

FIG. 1.



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greater than 120/minute and peripheral perfusion is not improving, then chemical treatment is indicated.

Although, classically, the first drug used should be sodium bicarbonate in a dose of 2-3 mEq/kg, this must be given either intravenously or intra-arterially; therefore, begin by administering aqueous epinephrine 1:10,000 at a dose of 0.5-1.0 ml directly down the endotracheal tube, while waiting for the emergency cutdown tray to be set up. Once the emergency umbilical venous catheter is inserted, sodium bicarbonate and epinephrine is administered and repeated as necessary. Then, 10% calcium gluconate in a dose of 1 ml/kg can be given slowly in an attempt to improve cardiac output.

TABLE 3.
Practical Aspects of Resuscitation

Management

1. Apgar 7-10 (normal infant)
 - A. Brief suctioning of oropharynx, then nose.
 - B. Dry with warm towels, place under radiant warmer.
 - C. Monitor closely, evaluation at 1 and 5 minutes.
2. Apgar 3-6 (moderate depression) (Good heart rate, gasping or intermittent respirations)
 - A. Brief suctioning (if no meconium)
 - B. 100% oxygen blown on face } S.O.S.
 - C. Vigorous stimulation }
 - D. If no response:
 1) Visualize larynx, clear airway, then
 2) Mask and bag ventilation
 - E. If heart rate is still < 100 after 15-30 seconds of mask and bag ventilation,
 1) Laryngoscope and intubate trachea
 2) Follow instructions in 3.
3. Apgar 0-2 (severe depression) (Heart rate < 100, no respiratory effort)
 - A. Laryngoscope, clear upper airway. If meconium is present, aspirate trachea.
 - B. Intubate and start IPPB
 - C. If no heart rate, or heart rate is < 60, begin cardiac massage.
 - D. If by five minutes heart rate is < 100, and peripheral perfusion is poor, chemical treatment is indicated.
 1) Sodium bicarbonate: initial dose 3-5 mEq/kg slowly. May be repeated if there is no improvement in cardiac function after an additional 5 minutes. If sodium bicarbonate is used without improvement, go on to step 2.
 2) Aqueous epinephrine: initial dose 0.5-1.0 ml may be repeated following sodium bicarbonate if there is no improvement. If aqueous epinephrine is used without improvement, go to step 3.
 3) Calcium gluconate, 10%: dose 1 ml/kg. May be repeated if there is no improvement in cardiac function.
4. Consider causes under "failures in resuscitation" (Table 4)

If the infant responds to ventilatory assistance only, chemical treatment is not indicated and sodium bicarbonate should not be given blindly. Blood gases should be checked first, then base administered as appropriate. Assisted ventilation and external cardiac massage should be continued throughout the period when drugs are being given. Heat loss must be minimized by maintaining the radiant warmer over the infant and turning off all air.

Throughout this period of time and particularly if the neonate is not responding, other causes of asphyxia must be considered and sought, those which we call "failures in resuscitation." Generally, failures in resuscitation fall in 5 major categories: (1) technical problems; (2) unrecognized pulmonary problems; (3) severe metabolic problems; (4) congenital anomalies of the organ systems involved; and (5) severe anemia (Table 4).

By far, "technical problems" are the commonest, and, of these, malposition of the endotracheal tube is the commonest. The endotracheal tube may be in the esophagus instead of the trachea, or may have been advanced too far, the tip being in the right main stem bronchus. First, check the tube position by relaryngoscoping, or re-intubating the neonate. If the infant is correctly intubated, good air entry should be heard bilaterally and chest expansion seen with ventilation. Hearing good air entry on the right and no or poor air entry on the left suggests the endotracheal tube is down the right main stem bronchus. If this occurs, the endotracheal tube should be pulled back until good air entry is heard on the left. Another possibility with poor left-sided air entry is a left pneumothorax.

Other technical problems are inadequate flow or oxygen concentration. Always use 100% oxygen with enough flow to allow adequate ventilation of the infant. The positive pressure breathing rate may be too slow, resulting in inadequate ventilation. In the severely asphyxiated infant, rapid rates of 80-120 or faster may be indicated (see complications). Insufficient pressure may be the problem. Excessive pressures are harmful, yet adequate pressure must be administered in order for ventilation to occur. In general, an attempt to keep the pressure less than 20 cm of water is made, at least until after X-ray confirmation of endotracheal tube position.

The second category of failures in resuscitation is "unrecognized pulmonary problems." Although these can be suspected clinically, they must be confirmed radiologically. Problems such as pneumothoax, diaphragmatic hernia, massive meconium aspiration, massive severe intrauterine pneumonia, or other restrictive lung problems may result in an "unresuscitatable" infant. Once recognized, further emergency treatment is indicated.

TABLE 4.
Failures in Resuscitation

1. Technical Problems
 - Endotracheal tube in esophagus
 - Endotracheal tube down too far
 - Not enough oxygen
 - Not enough rate
 - Not enough pressure
2. Unrecognized pulmonary problems
 - Pneumothorax
 - Massive meconium aspiration
 - Severe intrauterine pneumonia
 - Diaphragmatic hernia
 - Hypoplastic lungs
 - Other restrictive intrathoracic problems
3. Severe metabolic problems
 - Acidosis
 - Hypoglycemia
 - Hypothermia
4. Other problems
 - Congenital anomalies
 - —Cardiovascular
 - —Respiratory
 - —Central nervous system
 - Severe anemia

The first failures in resuscitation are "severe metabolic problems," the commonest being severe metabolic acidosis. Hypogycemia or hypothermia will also interfere with resuscitative efforts and, therefore, must be prevented and appropriately treated.

Infants born with congenital anomalies of those organ-systems involved may appear as failures in resuscitation.

Infants born with severe anemia may require resuscitation. However, they will change color from cyanotic to "pale-white," and warrant an emergency blood transfusion.

In Practice: How Does it Work?

The members of the resuscitation team must be familiar with each other's responsibilities and prepared to take over in the absence of the other member(s). Each member's role is clearly defined, with the physician in charge of the team. This fact, however, should not hinder the nurse or respiratory therapist, as they may be more familiar with resuscitation than the physician present. It is therefore imperative that free exchange of ideas occur during resuscitation.

As in all high-risk deliveries in our institution, a heparinized 50 cc syringe with #18 needle is placed on the obstetrician's delivery table. Following clamping and cutting of the cord, the obstetrician "preps" the cord, inserts the needle, and withdraws as much cord blood as possible. This "cord" blood accompanies the infant for possible future use.

When the infant is delivered, the resuscitation team is on hand, all aspects of preparation having been previously completed. The nurse, after turning on the timer, listens to and indicates the infant's heart rate (or feels the cord pulsa-

tions) so that all team members are aware. Assuming the heart rate is less than 60/minute (indicated by nurse), and no respiratory effort is present (evaluated by physician), the physician will proceed to ventilate the infant.

The respiratory therapist, in the meantime, is readying the CPAP hand ventilation system, and has ready the pin and tape utilized to secure the endotracheal tube. Once intubated, he will continue to hand-ventilate the infant, monitoring the rate, peak inspiratory pressure, PEEP, and FiO_2.

Once the baby is intubated and the endotracheal tube is secure (assuming the infant has responded), the infant can be transferred to the "stabilization" area where the nurse will attach ECG disk electrodes and connect them to the monitor. The monitor volume is turned up so that every "QRS" complex is heard. The nurse then connects the "IFC" probe from the overhead radiant warmer to the infant and turns on the Servo control switch. Next, infant arm and leg restraints are attached and preparation for an umbilical arterial catheter insertion is begun. Because of the delay time in moving the portable X-ray equipment to the stabilization area, the X-ray department now called.

The respiratory therapist continues to hand-ventilate, intermittently checking the infant's color and vital signs; and continuously monitors the hand ventilation "settings" he is administering.

Preparation of the umbilical arterial tray (by the nurse) consists of opening the tray and adding Betadine solution, alcohol, and heparinized saline to each of the three containers on the tray. The heparinized saline should contain 1 unit of heparin per cc. The physician, now scrubbed and gowned, will request either #3½ or #5 umbilical arterial catheter and probably other materials. Once the umbilical artery is dilated and the catheter is inserted, blood pressure is checked, utilizing a plastic disposable manometer (lumbar puncture type) or pressure transducer which is connected to the umbilical arterial catheter.

Values of normal blood pressure are posted in the stabilization area. If the infant is hypotensive, filtered cord blood or 5% albumin is infused. Once the blood pressure is checked and normal, blood is taken for a number of studies which may include blood gases, CBC, dextrostix or sugar, calcium, total protein, cross match, culture and possibly others. Requisitions for these and X-ray have to be prepared in advance, as does notification of the lab, obtaining ice to transport the blood gases, labeling proper tubes for the various blood studies, etc.

Anticipation is extremely important before and throughout the resuscitation, with each member anticipating the next step and preparing for it. If transport is anticipated, the tertiary care center's "hot line" (Kapiolani-Children's Medical Center) should be called (949-8310).

Now, 10% glucose and water IV with 1 unit of heparin/cc is infused into the umbilical arterial catheter and a single "AP" X-ray of the chest and abdomen is taken. We continue to monitor heart rate, air entry, blood pressure, and temperature. Ventilatory settings and inspired oxygen are adjusted according to blood gases. Once these variables are stabilized, the infant is ready for transport to the tertiary care center.

If the neonate has not responded, procedures as outlined under "severe depression" and "failures in resuscitation" must be followed. Once technical problems have been ruled out (i.e., E.T. tube in good position, 100% FiO_2, rapid rate, good air entry), then unrecognized pulmonary problems, severe metabolic problems, and other problems must be entertained. At the same time other drugs should be administered: epinephrine if the neonate is bradycardiac with poor perfusion; sodium bicarbonate if the infant has not responded to ventilation; and, finally, calcium gluconate.

A stat chest X-ray must be obtained to rule out any unrecognized pulmonary problem, and blood must be drawn to rule out metabolic or other problems, particularly in the infant of a diabetic mother who may be hypocalcemic or hypoglycemic.

Complications of Resuscitation

Pulmonary air leaks, catheter complications, seizures, retrolental fibroplasia, increasing respiratory acidosis, and pulmonary edema are all possibilities; however, careful observation and frequent measurements of the significant cardiopulmonary variables should minimize these risks.[6]

Summary

Although the "A.B.C.s" (airway, breathing, circulation, chemical) of resuscitation describe adequately the parameters essential for adequate resuscitation, they do not relate to the actions necessary to accomplish the feat. It is important for neonatal resuscitation to remember the eponym "S.O.S." (suction, oxygen, stimulation). Even infants with moderate depression (occasional respiratory effort) will generally respond to brief suctioning of the airway, 100% oxygen, and vigorous stimulation.

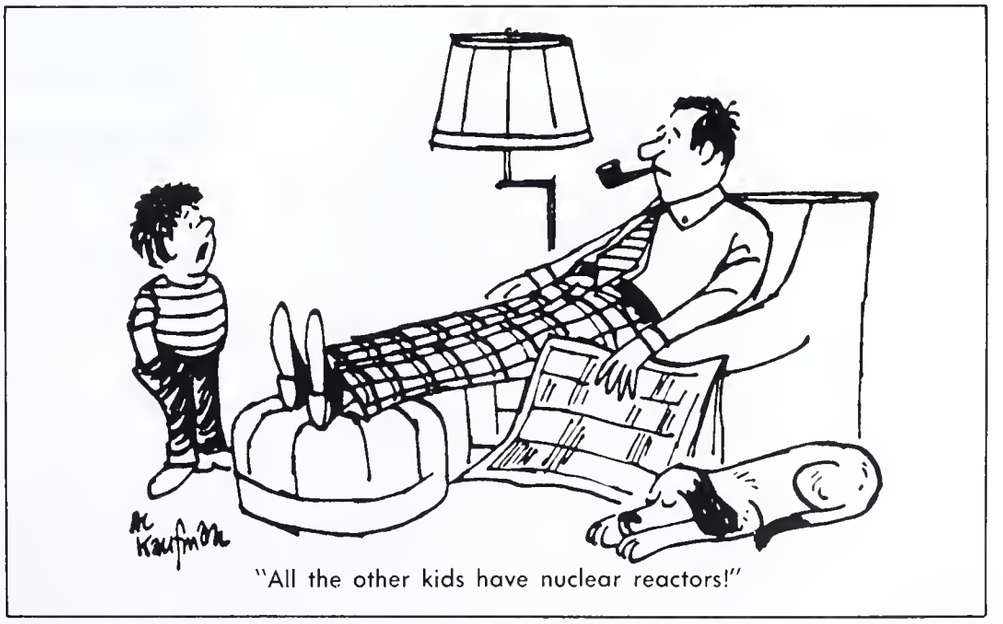
Although the severely depressed baby with no ventilatory effort will require positive pressure ventilation, "S.O.S." still holds true and must precede attempts to intubate the baby if the resuscitator is unable to do so.

A specially trained resuscitation team of physician, nurse, and respiratory therapist to interact in a dynamic evaluation approach is ideal, but not practical for most community hospitals. Each hospital in Hawaii that delivers perinatal care must develop its own protocol and train and maintain its resuscitation personnel. Ideally, at least 2 trained personnel with their rules clearly defined should attend all high-risk deliveries.

If all the members of the team are prepared to take over in the absence of others, neonatal resuscitation will remain fast, organized and accurate.

REFERENCES

1. Boychuk RB: Meconium aspiration syndrome and pulmonary hypertension. *Respiratory Technology*, 14:10-18, 1978.
2. Holmes DM: Immediate care of the newborn: the anesthesiologist. .
3. James LS: Obstetrical and gynecological assembly of California, February, 1971.
4. Kim M, Boychuk, RB: CPAP manual/hand ventilation system. *Respiratory Technology*, 14: 1978.
5. Thaler MM, Stoble GHC: An improved technique of external cardiac compression in infants and young children. *New Eng. J. Med.* 296:606, 1963.
6. Tooley WH, Phibbs RH, Schleuter BS: Delivery room diagnosis and immediate management of asphyxia from intrauterine asphyxia and the developing fetal brain. Year book Medical Publishers, Inc., pp 251-261, 1977.



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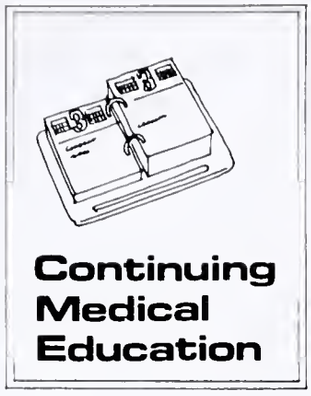
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CALENDAR OF ACCREDITED EVENTS—CATEGORY 1

Accredited Programs of CME allow one unit of AMA credit for each hour of instruction excluding all "breaks." Asterisked programs also are accredited for AAFP Prescribed credit.

LOCAL ACCREDITED PROGRAMS
ONGOING

American Cancer Society, Hawaii Pacific Division

1. Telephone Task Force w/G.N. Wilcox Memorial Hospital, First Thursday, 12:45 p.m. Held on Oahu at Am. Cancer Society main conf. room, 200 N. Vineyard, Honolulu.
2. Windward Oncology Conference w/Castle Memorial Hospital. Second and Fourth Tuesday, 12:30 p.m.

John A. Burns School of Medicine

1. Dept. of Medicine
 - *A. Case Conferences, Second and Fourth Tuesdays, 12:30-1:30 p.m., Queen's University Tower, Room 618.
 - *B. Grand Rounds, First and Third Tuesdays, 12:30-1:30 p.m., Queen's University Tower, Room 618.
 - C. Endocrinology Grand Rounds, Second Thursday, 5:30-6:30 p.m., Queen's University Tower, Room 506.
 - D. UH-Queen's Conference, Every Friday, 8:00-9:00 a.m., Queen's Medical Center, Mabel Smythe Auditorium.
 - E. Cardiology Grand Rounds, Third Tuesdays, 5:30-6:30 p.m., Queen's University Tower, Room 508.
 - F. Infectious Disease Grand Rounds, Second and Fourth Tuesdays, 5:00-6:00 p.m., Queen's Nalani I Conference Room.
 - G. Dermatology Grand Rounds, Second Wednesday, 7:30-9:30 a.m., Queen's Medical Center, Queen Emma Clinic.
 - H. Pulmonary Grand Rounds, Fourth Monday, 12:30-1:30 p.m., Queen's Medical Center, Kamehameha Lounge.
 - I. Nuclear Medicine Grand Rounds, Third Wednesday, 5:00-6:30 p.m., Straub Hospital, Doctors' Dining Room.
 - J. Medical-Surgical GI Grand Rounds, Third Friday, 12:45-1:45 p.m., Kuakini Hospital, PB4 Classroom.
 - K. Hematology Grand Rounds, Fourth Monday, 12:30-1:30 p.m., Queen's University Tower, Room 721.
 - L. Nephrology Conference, First Monday, 1:00-2:00 p.m., St. Francis Hospital, Sullivan IV Classroom.
 - M. G.I. Journal Club, First Thursday, 5:00-6:00 p.m., Straub Clinic and Hospital, Fourth Floor Conference Room.
2. Dept. of Obstetrics and Gynecology
 - *A. Grand Rounds, Every Wednesday, 7:30-8:30 a.m., Kapiolani-Children's Medical Center, Second Floor Auditorium.
3. Division of Orthopedics
 - A. Fracture Conference, Every Monday, 5:00-6:00 p.m., Queen's University Tower, Room 618.
4. Dept. of Pediatrics
 - A. Grand Rounds, Every Thursday, 8:00-9:00 a.m., Kapiolani-Children's Medical Center, Second Floor Auditorium.
 - B. Pediatric Monday Noon Conference, 12:45-1:45 p.m., Kapiolani-Children's Medical Center, Second Floor Auditorium.
 - C. Pediatric Infectious Disease Conference, Every Thursday, 12:30-1:30 p.m., Kapiolani-Children's Medical Center, Conference Room B.
 - D. Perinatal Grand Rounds, Every Friday, 8:15-9:15 p.m., Kapiolani-Children's Medical Center, Conference Room B.
5. Dept. of Psychiatry
 - A. Grand Rounds, Every Friday, 8:00-9:30 a.m., Queen's University Tower, Room 618. Canceled during summer.
6. Dept. of Surgery
 - A. Grand Rounds, First, Second, and Third Saturdays, 7:30-9:00 a.m., rotating hospitals.
 - B. Statistical M and M, last Saturday, 7:30-9:00 a.m., rotating hospitals.
 - C. Journal Club, First and Third Tuesdays, 6:00-8:00 p.m., Queen's University Tower, Room 620.
 - D. Medical-Surgical GI Rounds, Third Friday, 12:45-1:45 p.m., Kuakini Medical Center, PB4 Classroom.
 - E. Pediatric Surgical Grand Rounds, First Friday, 12:45-1:45 p.m., Kapiolani-Children's Medical Center, Conf. Rm. 5.
 - F. Basic Science Lecture, Wednesdays, 7:15-8:15 a.m., Queen's University Tower, Room 618.
- * 7. Dept. of Family Practice
 - A. Conference, Fourth Wednesday, 1:00-2:00 p.m., Kapiolani-Children's Medical Center, Second Floor Executive Dining Room.

Hawaii Ophthalmological Society

1. Monthly dinner meeting, Third Thursday of each month cancelled July, August and December. Contact: O.D. Pinkerton, M.D., at (808) 943-0009.

Hawaii Thoracic Society

1. Case presentations & current research in pulmonary medicine with U. of H. Sinclair Chest Club, Third or Fourth Wednesdays, each month, 6:00 a.m.-7:30 p.m. Contact: Rosemary Respicio, B.S.N., at (808) 537-5966.

Hilo Hospital

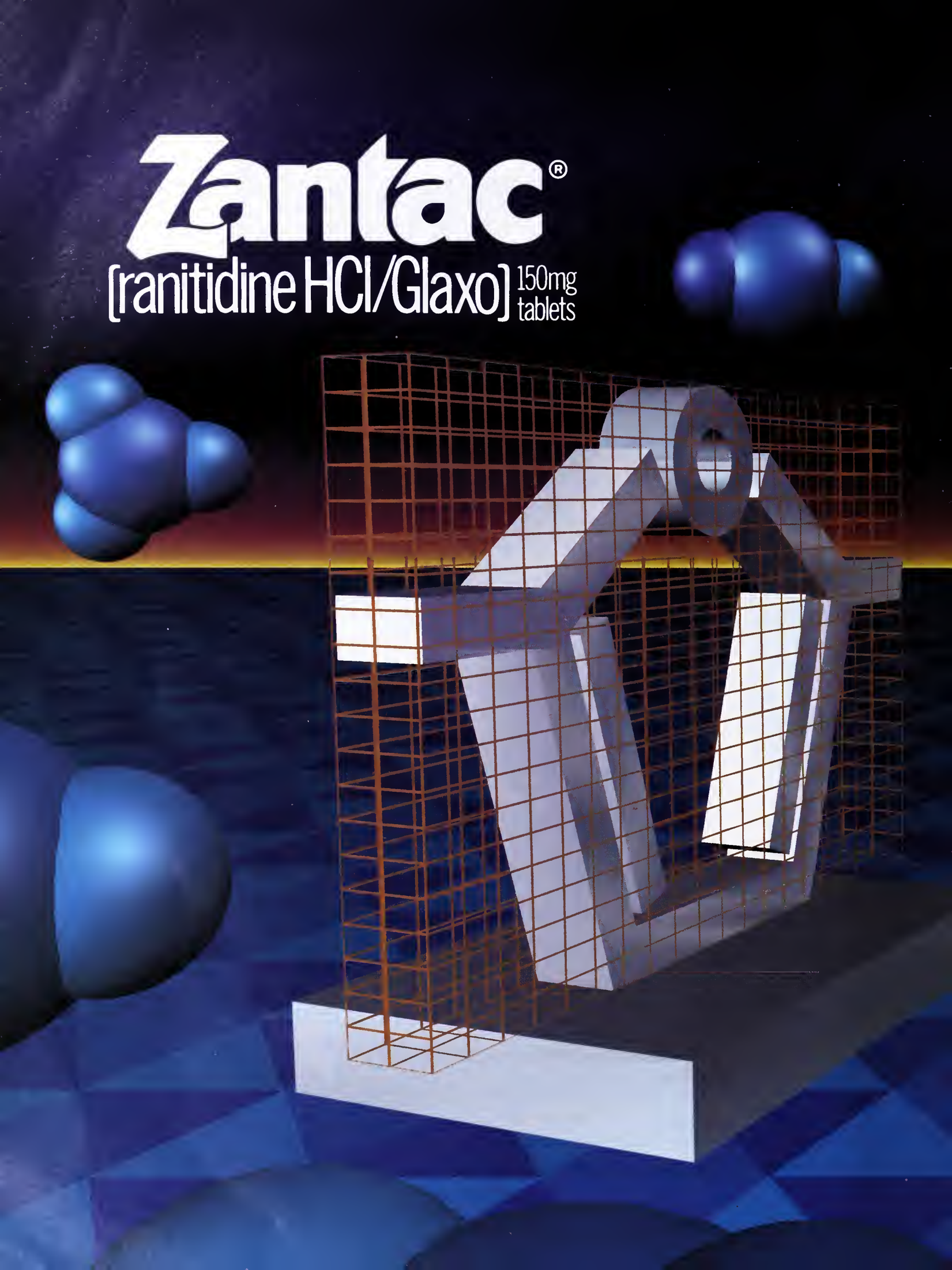
1. Tumor Conference, First Friday, 12:30 p.m.
2. X-ray Conference, Second Friday, 12:30 p.m.
3. Clinical Pharmacology, Third Friday, 12:30 p.m.
4. Pathology Conference, Fourth Friday, 12:30 p.m.
5. ETV and Visiting Professors, Saturdays, 7:00 a.m.
6. Medical Ethics Conference, as announced.

Kaiser Hospital

1. Medicine Grand Rounds, Every Tuesday, 8:00 a.m. Pac. Aud. 1 hr. Cat. 1.
2. Tumor Board, Every Tuesday, 12:00. Pac. Aud. 1 hr. Cat. 1.
3. OB/Ped. Perinatal Mortality Conference, Last Tuesday, each month. 8:00 a.m. 1 hr. Cat. 1.
4. Surg. Grand Rounds, Every Friday, 8:00 a.m. Pac. Aud. 1 hr. Cat. 1.
5. Saturday Morning Educational Conference, Every Saturday, 7:30 a.m. Pac. Aud. 1 hr. Cat. 1. (Contact CME Dept.-Kaiser for further information)
6. OB-Path Conference, First Monday of each month, 8:00 a.m., 1 hr.

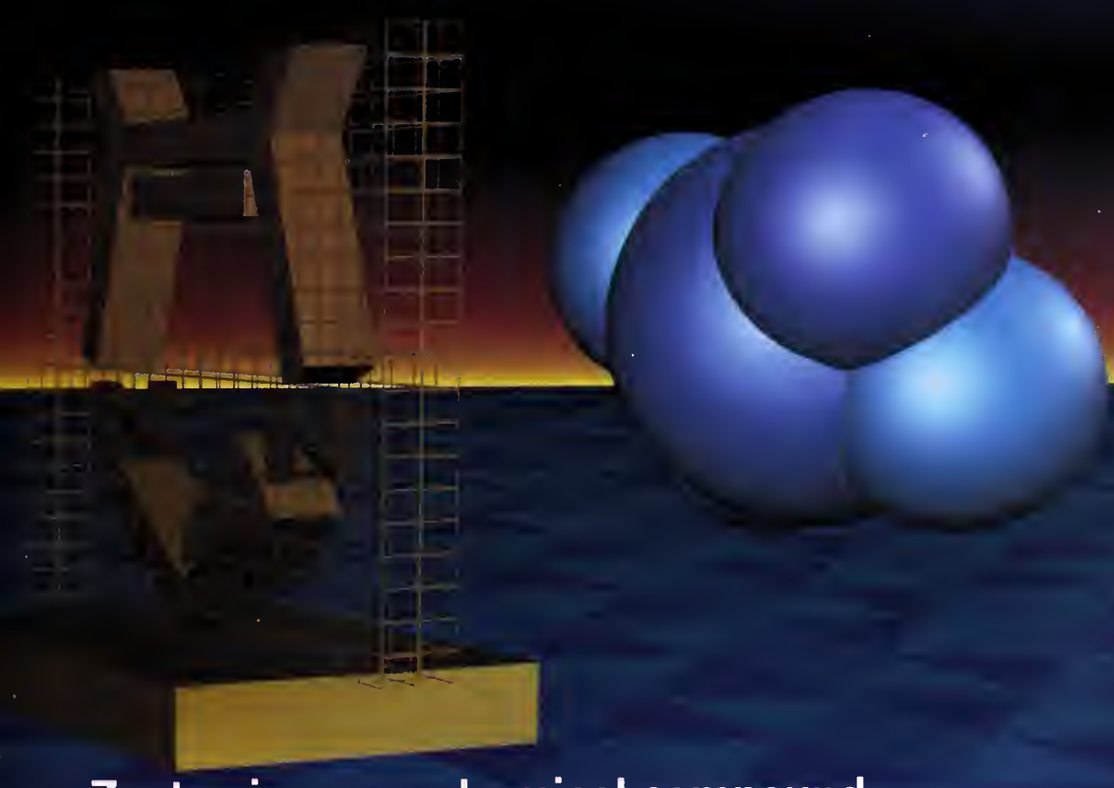
Kuakini Medical Center

1. Visiting Professor Program (for further info contact CME Dept. at 547-9226 as these programs subject to change).
2. Nephrology Conference, Third Monday, 12:00 P.M., Makai Conference Room.
3. Dept. of Ophthalmology. First Tuesday, 12:30 p.m., Private Dining Room.
4. Medical M&M Conference Dept. of Medicine, Fourth Tuesday, 1:00 p.m., Hale Pulama Mau Auditorium
5. G.I. Conference, Second Wednesday, 12:30 p.m., Makai Conference Room.
6. Oncology Conference, Every Thursday, 7:30 a.m., PB-5 Conference Room.
7. Pulmonary Conference, Second Thursday, 1:00 p.m., Makai Conference Room.
8. Hematology Conference, Third Thursday, 12:30 p.m., Makai Conference Room.
9. Surgical Conference, First and Second Friday, 12:45 p.m., PB-5 Conference Room.
10. Surgical M&M Conference, Fourth Friday, 12:45 p.m., PB-5 Conference Room.


Zantac®
[ranitidine HCl/Glaxo] 150mg tablets

Glaxo ROCHE

Unsurpassed activity in gastric acid inhibition: for active duodenal ulcer and pathological hypersecretory conditions*



Zantac is a new chemical compound

- ☐ Not a histamine-related imidazole—a furan compound.

Zantac offers important patient benefits

- ☐ Single-dose action for up to 12 hours—b.i.d. administration. Four weeks of therapy for most patients with active duodenal ulcer.
- ☐ No interaction with warfarin, theophylline and diazepam.
- ☐ Effective and well tolerated even in pathological hypersecretory conditions.
- ☐ For adverse reactions see complete prescribing information.

*It is not known exactly how much inhibition of gastric acid secretion is required to heal ulcers.

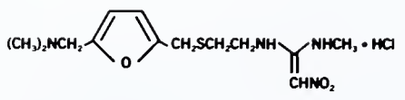
Please see following page for complete prescribing information.

Unsurpassed activity in gastric acid inhibition

Zantac®

[ranitidine HCl/Glaxo] 150mg tablets

DESCRIPTION: The active ingredient in ZANTAC® Tablets, ranitidine hydrochloride, is a histamine H_2 receptor antagonist. Chemically it is N[2-[[[5-[(dimethylamino) methyl]-2-furanyl]methyl]thio]ethyl]-N'-methyl-2-nitro-1, 1-ethenediamine, hydrochloride. It has the following structure:



The empirical formula is $C_{13}H_{22}N_4O_3S \cdot HCl$, representing a molecular weight of 350.87.

Ranitidine hydrochloride is a white to pale yellow granular substance which is soluble in water. It has a slightly bitter taste and sulphur-like odor.

Each tablet for oral administration contains 168 mg of ranitidine hydrochloride, equivalent to 150 mg ranitidine.

CLINICAL PHARMACOLOGY: ZANTAC® (rantidine hydrochloride) is a competitive, reversible inhibitor of the action of histamine at the histamine H_2 receptors, including receptors on the gastric cells.

ZANTAC does not lower serum Ca^{++} in hypercalcemic states.

ZANTAC is not an anticholinergic agent.

Antisecretory Activity:

1. Effects on acid secretion:

ZANTAC inhibits both daytime and nocturnal basal gastric acid secretion as well as gastric acid secretion stimulated by food, histamine and pentagastrin, as shown in the table below.

Effect of Oral ZANTAC® on Gastric Acid Secretion

	Time After Dose, hrs.	% Inhibition of Gastric Acid Output by Dose, mg			
		75-80	100	150	200
Basal	Up to 4		99	95	
Nocturnal	Up to 13	95	96	92	
Betazole	Up to 3		97	99	
Pentagastrin	Up to 5	58	72	72	80
Meal	Up to 3		73	79	95

It appears that basal, nocturnal and betazole stimulated secretion are most sensitive to inhibition by ZANTAC, responding almost completely to doses of 100 mg or less, while pentagastrin and food stimulated secretion are more difficult to suppress.

2. Effects on other gastrointestinal secretions:

Pepsin: Oral ZANTAC 150 mg did not affect pepsin secretion. Total pepsin output was reduced in proportion to the decrease in volume of gastric juice.

Intrinsic factor: Oral ZANTAC 150 mg had no significant effect on pentagastrin-stimulated intrinsic factor secretion.

Serum gastrin: ZANTAC has little or no effect on fasting or postprandial serum gastrin.

3. Other pharmacological actions:

a. Hepatic blood flow reduced 20%. Significance unknown.
b. Gastric bacterial flora—increase in nitrate-reducing organisms, significance not known.
c. Prolactin—no effect (IV bolus) or less increase than cimetidine.
d. Other pituitary hormones—no effect on serum gonadotropins, TSH, GH. Possible impairment of vasopressin release.
e. No change in cortisol or aldosterone.
f. No effect on count, motility or morphology of sperm, androgen level, estradiol, testosterone.
g. No effect on penile erection, sexual arousal or ejaculation.

4. Pharmacokinetics:

ZANTAC is 50% absorbed after oral administration compared to an IV injection with mean peak levels of 440-545 ng/ml occurring at 2-3 hours after a 150 mg dose. The elimination half-life is 2.5-3 hours.

Absorption of ZANTAC is not significantly impaired by concomitant administration of food or antacids. Propantheline slightly delays and increases peak blood levels of ZANTAC, probably by delaying gastric emptying and transit time.

Serum concentrations necessary to inhibit 50% of stimulated gastric acid secretion are estimated to be 36-94 ng/ml. Following a single oral dose of 150 mg, serum concentrations of ZANTAC are in this range up to 12 hours. However, blood levels bear no consistent relationship to dose or degree of acid inhibition.

The principal route of excretion is the urine, with approximately 30% of the orally administered dose collected in the urine as unchanged drug in 24 hours. Renal clearance is about 410 ml/min, indicating active tubular excretion.

In man, the N-oxide is the principal metabolite in the urine; however this amounts to less than 4% of the dose. Other metabolites are the S-oxide (1%) and the desmethyl ranitidine (1%). The remainder of the administered dose is found in the stool.

The volume of distribution is about 1.4 L/kg. Serum protein binding averages 15%.

Clinical Trials:

Duodenal Ulcer

In a multicenter, double-blind controlled U.S. study of endoscopically diagnosed duodenal ulcers, earlier healing was seen in the ZANTAC®-treated patients as shown below:

	ZANTAC® +		Placebo +	
	Number Entered	Healed/ Evaluable	Number Entered	Healed/ Evaluable
Outpatients				
Week 2	149	54/147 (37%)*	146	29/137 (21%)
Week 4		109/148 (74%)**		68/137 (50%)

*p = 0.0014
**p = 0.0001
+ All patients were permitted prn antacids for relief of pain.

In these studies, ZANTAC-treated patients reported a reduction in both daytime and nocturnal pain, and they also consumed less antacid than the placebo-treated patients.

	Median number of daily doses of antacid	
	Ulcer Healed	Ulcer Not Healed
ZANTAC®	0.06	0.71
Placebo	0.71	1.43

During the clinical trials, some not healed at 4 weeks were rerandomized to either placebo or ranitidine, with the results after 4 weeks shown below.

Not healed on:	Retreated with:	Healed:
Placebo	Placebo	10/21
Placebo	Ranitidine	15/24
Ranitidine	Ranitidine	5/8
Ranitidine	Placebo	8/19

It can be seen that there are trends weakly favoring ranitidine but none of the differences are statistically significant.

Studies have been limited to short-term treatment of acute duodenal ulcer. Patients whose ulcers healed during therapy had recurrences of ulcers at the usual rates. There have been no systematic studies to evaluate whether continued treatment with ZANTAC (ranitidine hydrochloride) alters recurrence rates.

Pathological Hypersecretory Conditions
(such as Zollinger-Ellison Syndrome)

ZANTAC inhibits gastric acid secretion and reduces occurrence of diarrhea, anorexia, and pain in patients with pathological hypersecretion associated with Zollinger-Ellison Syndrome, systemic mastocytosis and other pathological hypersecretory conditions (e.g. post-operative, "short gut" syndrome, idiopathic). Use of ZANTAC was followed by healing of ulcers in 8 of 19 (42%) patients who were intractable to previous therapy.

INDICATIONS AND USAGE:

ZANTAC® (ranitidine hydrochloride) is indicated in:

1. Short-term treatment of active duodenal ulcer. Most patients heal within 4 weeks and the usefulness of further treatment has not been demonstrated. Studies available to date have not assessed the safety of ranitidine in uncomplicated duodenal ulcer for periods of more than 8 weeks.
2. The treatment of pathological hypersecretory conditions (e.g., Zollinger-Ellison Syndrome and systemic mastocytosis).

In active duodenal ulcer and hypersecretory states, concomitant antacids should be given as needed for relief of pain.

CONTRAINDICATIONS: There are no known contraindications to the use of ZANTAC® (ranitidine hydrochloride).

PRECAUTIONS:

General

1. Symptomatic response to ZANTAC® therapy does not preclude the presence of gastric malignancy.
2. Since ZANTAC is excreted primarily by the kidney, dosage should be adjusted in patients with impaired renal function (see Dosage and Administration). Caution should be observed in patients with hepatic dysfunction; ZANTAC is metabolized in the liver and, at present, the effects of hepatic disease on the metabolism of ZANTAC is unknown.

Laboratory Tests

False positive tests for urine protein with Multistix® may occur during ZANTAC therapy and therefore testing with sulphosalicylic acid is recommended.

Drug Interaction

Potentiation of warfarin-type anticoagulants has not been observed with concomitant ZANTAC administration. Likewise no clinically significant drug interactions have been observed between ZANTAC and theophylline or ZANTAC and diazepam. Drug interactions of this type are not expected since ranitidine does not significantly interact with the cytochrome P450 linked drug metabolizing enzyme system.

Carcinogenesis, mutagenesis and impairment of fertility

There was no indication of tumorigenic or carcinogenic effects in lifespan studies in mice and rats at doses up to 2000 mg/kg/day.

Ranitidine was not mutagenic in standard bacterial tests *(Salmonella, E. Coli)* for mutagenicity at concentrations up to the maximum recommended for these assays.

In a dominant lethal assay a single oral dose of 1000 mg/kg to male rats was without effect on the outcome of 2 matings per week for the next 9 weeks.

Usage in Pregnancy

Pregnancy Category B. Reproduction studies have been performed in rats and rabits at doses up to 160 times the human dose and have revealed no evidence of impaired fertility or harm to the fetus due to ZANTAC® (ranitidine hydrochloride). There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers

ZANTAC (ranitidine hydrochloride) is secreted in human milk. Caution should be exercised when ZANTAC is administered to a nursing mother.

Pediatric Use

Safety and effectiveness in children have not been established.

Use in Elderly Patients

Ulcer healing rates in elderly patients (65-82 years) were no different from those in younger age groups. The incidence rates for adverse events and laboratory abnormalities were also not different from those seen in other age groups.

ADVERSE REACTIONS

Headache has been found to be more frequent in ZANTAC®-treated patients (3%) than placebo-treated patients (2%). The following symptoms have been reported in ZANTAC-treated patients with a frequency of 1% or less: malaise, dizziness, constipation, nausea, abdominal pain and rash.

Decreases in white blood cell and platelet count have occurred in a few patients. These did not lead to cessation of treatment and were clinically insignificant. There have been no reported cases of agranulocytosis or aplastic anemia. Some small increases in serum creatinine have been noted in patients receiving ZANTAC (ranitidine hydrochloride).

Some increases (up to 5 times the upper limit of normal in one case) in serum transaminases and gamma-glutamyl transpeptidase have been reported. Rare cases of hepatitis have been reported.

In normal volunteers, SGPT values were increased to at least twice the pre-treatment levels in 6 of 12 subjects receiving 100 mg q.i.d. IV for 7 days, and in 4 of 24 subjects receiving 50 mg q.i.d. IV for 5 days. This dose-related effect of the IV formulation suggests that ZANTAC is potentially hepatotoxic. In placebo controlled studies of the oral formulation involving 2437 patients (1358 receiving ranitidine and 1079 patients receiving placebo), with most patients treated 4-8 weeks, there was no difference in incidence of SGOT-SGPT elevations between the 2 groups.

No clinically significant interference with endocrine or gonadal function have been reported.

OVERDOSAGE: There is no experience to date with deliberate overdosage. The usual measures to remove unabsorbed material from the gastrointestinal tract, clinical monitoring and supportive therapy should be employed.

Studies in animals receiving doses of ZANTAC® in excess of 225 mg/kg/d have shown muscular tremors, vomiting, and rapid respiration. Single oral doses of 1000 mg/kg in mice and rats were not lethal. Intravenous LD_{50} values in rat and mouse were 83 mg/kg and 77 mg/kg, respectively.

DOSAGE AND ADMINISTRATION:

Duodenal Ulcer

The current recommended adult oral dosage of ZANTAC® for duodenal ulcer is 150 mg twice daily, the only dose shown to speed healing of duodenal ulcer in U.S. clinical trials. Smaller doses have been shown to be equally effective in inhibiting gastric acid secretion in U.S. studies, and several foreign trials have shown that 100 mg b.i.d. is as effective as the 150 mg dose.

Antacids given concomitantly and as needed for relief of pain do not interfere with the absorption of ZANTAC.

Since 37% of patients can be expected to show complete healing at the end of two weeks, endoscopy at that time may spare many patients an additional period of treatment.

Pathological Hypersecretory Conditions
(such as Zollinger-Ellison Syndrome)

Recommended adult oral dosage: 150 mg twice a day. In some patients it may be necessary to administer ZANTAC 150 mg doses more frequently. Doses should be adjusted to individual patient needs, and should continue as long as clinically indicated. Doses up to 6 g/day have been employed in patients with severe disease.

Dosage adjustment for patients with impaired renal function.

On the basis of experience with a group of subjects with severely impaired renal function treated with ZANTAC, the recommended dose in patients with a creatinine clearance less than 50 ml/min is 150 mg every 24 hours. Should the patient's condition require, the frequency of dosing may be increased to every 12 hours or even further with caution. Hemodialysis reduces the level of circulating ranitidine. Ideally, the dosage schedule should be adjusted so that the timing of a scheduled dose coincides with the end of hemodialysis.

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ZANTAC® Tablets (ranitidine hydrochloride equivalent to 150 mg ranitidine) are white tablets embossed with "ZANTAC 150" on one side and "Glaxo" on the other. They are available in bottles of 30 tablets (NDC 0173-0344-40), 60 tablets (NDC 0173-0344-42), and unit dose packs of 100 tablets (NDC 0173-0344-47).

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Issued Sept. 1983

Glaxo

Glaxo Inc., Research Triangle Park, NC 27709

Maui Memorial Hospital

1. Thursday Conference, 7:00-8:00 a.m., Auditorium.
 First—Dept. of Medicine
 Second—Dept. of Surgery
 Third—Dept. of OB/GYN
 Fourth—Dept. of Pediatrics
 Fifth—Elective
2. Tumor Board, Every Second Friday, 7:00-8:00 a.m., Hospital Multi Purpose Room.
3. Dept. of Emergency Medicine, Third Monday, 9:00-10:00 a.m.
4. Anesthesia Conference, Second Wednesday, 7:00-8:00 a.m., Hospital Dining Room.

The Queen's Medical Center

1. ENT Conferences, First and Second Fridays, 7:30 a.m., Small Dining Room.
2. Medical Conferences, Every Friday, 8:00 a.m., Mabel Smyth Auditorium.
3. OB/GYN Conferences, Every Monday, 1:00 p.m., Kam Auditorium.
4. Ophthalmology Conference, Fourth Tuesday, 4:30-6:30 p.m., Queen Emma Eye Clinic.
5. Orthopedic Conferences, Every Wednesday, 7:00 a.m., Kam Auditorium.
6. Pathology Conferences, Every Wednesday, 7:00 a.m., Nalani I Conference Room.
7. Pediatric Grand Rounds, Fourth Thursday, 12:30 p.m., Harkness Board Room.
8. Surgical Trauma Conference, Second Tuesday, 4:30 p.m., Kam Auditorium.

St. Francis Hospital

1. SFH-UH Tumor Conference, Every Monday, 7:30 a.m., Sullivan-4 Classroom.
2. EENT Meeting, First Tuesday, 7:00 a.m., Sullivan-4 Classroom.
3. SFH-UH Hematology Conference, Third Thursday, 12:30 p.m., Sullivan-4 Classroom.
4. SFH-UH Surgical Grand Rounds, First, Second & Third Fridays, 7:30 a.m., Sullivan-4 Classroom.
5. Visiting Professor Programs (for further info call CME office at St. Francis).

Straub Clinic & Hospital

1. Cardiac Surgery Conference meets the Fourth Tuesday of each month, from 4:30-5:30 p.m., in the Doctors' Dining Room. (1 hr. CME credit)
2. Community Peripheral Vascular Conference meets the Third Thursday of each month from 5:00-6:30 p.m., in the Doctors' Dining Room.
3. Department of Anesthesiology meets the Second Tuesday of each month from 7:00-8:00 a.m., in the Doctors' Dining Room.
4. Friday Noon Conference meets Every Friday of each month from 12:30-1:30 p.m., in the Doctors' Dining Room (1 hr. CME credit).
5. Medical Morbidity and Mortality Conference meets the Third Tuesday of each month from 7:00-8:00 a.m., in the Doctors' Dining Room (1 hr. CME credit).
6. Neuropathology Conference meets every Fourth Saturday of each month from 8:00-9:00 a.m., in the Doctors' Dining Room (1 hr. CME credit).
7. Patient Care Conference, formerly Straub Professional Seminar, meets every Second Tuesday of each month from 5:00-6:00 p.m. in the Doctors' Dining Room (1 hr. CME credit).
8. Surgical Morbidity and Mortality Conference meets every Fourth Thursday of each month from 7:00-8:00 a.m. in the Doctors' Dining Room. (1 hr. CME credit)
9. Visiting Professor Conference meets periodically on Thursday from 7:00-8:00 a.m. in the Doctors' Dining Room (1 hr. CME credit).

*Note: All conferences subject to change. Monthly calendar is available upon request.

Wahiawa General Hospital

1. 1-2 p.m. seminars, Every Tuesday. Contact: June, 621-8411, Ext. 205.

Wilcox Hospital (Lihue)

1. General Medical Staff Meeting, Quarterly in January, April, July & October.
2. Clinical Review Meeting, Every Monday at Noon, during the month of March. Starting April through September Clinical Review Meeting, Every Tuesday at Noon, except the last Tuesday of the month.
3. Tumor Conference, First Thursday.

Miscellaneous

HMA Maternal and Perinatal Mortality Study Committee, First Monday, 5:30 p.m. 320 Ward Ave., Suite 200.
Cat. 1 on hr. for hr. basis.

Hawaii Melanoma Tumor Board. Third Friday every month, 12:30-1:30 p.m., Cancer Research Center, 1236 Lauhala St., Room 501. (1 hr. CME credit)

SPECIAL EVENTS

March 11-18, 1984	Kidney Disease Course, University of Colorado Health Sciences Center, Office of Postgraduate Medical Education, Campus Box C295, 4200 East 9th Avenue, Denver, Colo. 80262, (303) 394-5241 or 394-5195. To be held on Maui.
March 12-16, 1984	University of Hawaii Sports Medicine Course. Contact: Joy Lewis, Box H-CCECS, 2530 Dole Street, Honolulu, Hawaii 96822, (808) 948-8244. At: Princess Kaiulani Hotel, Honolulu, Hawaii.
March 15-17, 1984	Mid-Life Issues, Hawaii Psychiatric Society and Area VII of the American Psychiatric Association. For further information call D. Chang, (808) 947-8573. To be held at the Hotel Inter-Continental Maui, Wailea, Maui, Hawaii.
March 16-23, 1984	The Spine, University of Washington, Continuing Medical Education, Health Sciences Center D-303, Seattle, Wash. 98195, (206) 543-1050. To be held at the Westin Wailea Beach Hotel, Maui, Hawaii.
March 17-24, 1984	Update in Obstetrics and Gynecology, University of Washington School of Medicine, Health Sciences Center, E-303, Seattle, Wash. 98195, (206) 543-1050. At: Sheraton Kauai, Kauai, Hawaii.
March 19-23, 1984	21st National Conference on Breast Cancer. Contact: Breast Cancer Conference, American College of Radiology, 6900 Wisconsin Avenue, Chevy Chase, Md. 20815, (301) 654-6900. At: Sheraton Waikiki, Honolulu, Hawaii.
March 22-April 1, 1984	Hawaii Thoracic Society Visiting Professorship Program. Contact: Rosemary Respicio, (808) 537-5966.
March 24-31, 1984	The Injured Patient—Controversies and Challenges. Contact: University of Washington School of Medicine, Health Sciences Center, E-303, Seattle, Wash. 98195, (206) 543-1050. At: Sheraton Kauai, Kauai, Hawaii.
March 31-April 7, 1984	High Risk Infants and Adolescents. Contact: University of Washington, School of Medicine, Health Sciences Center, E-303, Seattle, Wash. 98195, (206) 543-1059. At: Hotel Inter-Continental Maui, Wailea, Maui, Hawaii.
April 5-7, 1984	Freestanding Emergency Centers and Convenience Clinics: Planning, Development and Management. Contact: American Hospital Association, Division of Ambulatory Care, 840 North Lake Shore Drive, Chicago, Ill. 60611, (312) 280-6461. At: Honolulu, Hawaii.
April 29, 1984	Hawaii Asthma Allergy Symposium—1984, The Hawaii Asthma Camp, (808) 537-6954, 1710 Pali Highway, Honolulu, Hawaii 96813. At: Westin Ilikai Hotel, Honolulu, Hawaii.
Oct. 25-28, 1984	Allergy, Immunology, and Infections Disease. Contact: Joe Harrison, M.D., Symposium Maui, Inc., P.O. Box 10185, Lahaina, Maui, Hawaii 96761, (808) 661-8032.

Hawaii Academy of Family Physicians' Newsletter

Don and Marlies Farrell

It is a pleasure to appear in the HMJ once again. We hope to make this newsletter a regular feature.

Membership News

Our membership is farflung these days, with **Burgess Boone** on Wake Island, **James Langworthy** in Newton, Mass., where he is in residency in Occupational Health, **Patrick Lowry** at the University of the South Pacific in Suva, Fiji, and **John Newman** on Kwajalein.

The following members have been re-elected to 3-year active memberships after having completed at least 150 hours of CME: **Louis Bade, Mona Bomgaars, Thornton Dilcher, Darcel Gilbert, Kenneth Haling, Morris Hayes, Barbara Kobayashi, Helen Percy, Louis Polskin** and **Marc Shlachter.**

New officers and council members for 1984 will be: **John Aoki**, president; **Mona Bomgaars**, president-elect; **Robert Hollison**, secretary; **Donald Farrell**, treasurer; **Thomas Cahill**, delegate; **Lily Ning**, alternate delegate; **Howman Lam, Kenneth Steinweg** and **Nathan Wong** will be new councilors through 1986.

In Memoriam

Robert G. Benson, longstanding HAFP member, died in November 1983.

HAFP Membership Survey

Recently a survey was mailed to 105 Active and Life members, to which 59 physicians responded. These are the results: Practice facts: 45 of the respondents are in full-time practice; 7, part-time; 3, retired. In solo practice, 22; 4 have partners; 16 practice in groups; and 8 are in other types of practice. A total of 21 practice in an urban setting, 26 in a rural one. Oahu respondents numbered 31 while 20 respondents practice on Neighbor Islands and 1 responding from outside Hawaii. Engaged in in-patient care are 44; 30 take care of patients in ICU; 28 in CCU; 4 do major surgery; 45 office surgery; 46 practice pediatrics; 17 OB. Housecalls are made by 38. Engaged in teaching are 31; and 8 in other activities such as administration.

Perceived as major problems facing the family physician today were, in ranked order: medical economics (40); government regulations (38); keeping up with medical advances (31); malpractice problems (27); competition (23); hospital privilege problems (21); and others such as prestige (3).

Chapter activities were rated excellent-to-poor with the following results: annual meetings, bimonthly dinner meetings, newsletter and membership services were rated predominantly in the excellent-to-good range, while legislative activities, representation to hospitals and to the public were rated by a majority to be average-to-poor. In the following areas, members wanted to see improved activities: representation to the public (42), representation to hospitals (34), legislative activities (28), more CME (25), help in practice building (14), and others (5).

National academy membership was found to be valuable by 43 respondents, not valuable by 13, with most of the latter reporting difficulties concerning CME documentation, i.e. reporting procedure is felt to be too cumbersome.

A local family practice residency was thought to be needed by 37 respondents, whereas 13 found it unnecessary and one respondent even advocated closing of the medical school.

Other comments frequently mentioned were that more involvement of Neighbor Island membership is needed; there is not enough contact between the Executive Council and the membership, and we need to raise the public's awareness of the role of the family physician.

The Executive Council, after examinning and reviewing these survey results, will plan its activities and programs accordingly. A second survey is planned to involve all family and general practitioners in Hawaii, regardless of HAFP membership, to deal mainly with medical economics. The plan is for an ongoing survey with brief monthly questionnaires and regular dissemination of results.

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Call Crassraads Press at 521-0021 to place a classified ad. $3.50 per line + 4% tax, 4 line minimum, appraximately 5 wards per line. Payment must accampany arder.

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CONTENTS

Editorials:

Improving Perinatal Care 97
R.B. Boychuk, M.D. and D. Jasinski, M.D.

Consultations 97
J.I.F. Reppun, M.D.

Medical Art Exhibit 98
Masa Morioka Taira

The Reference Committee—Part II 99
J.I.F. Reppun, M.D.

HMA Auxiliary is MADD 99

Improving Perinatal Knowledge and Care 100
Rodney B. Boychuk, M.D., and Jane C. Nelson, M.A.

News and Notes 108
Henry N. Yokoyama and J.I.F. Reppun

Fatal Sardine Poisoning 114
Robert J. Melton, M.D.; John E. Randall, Ph.D.; Nobuhiro Fusetani, Ph.D.; Robert S. Weiner, M.D., Rex D. Couch, M.D., and J.K. Sims, M.D.

Continuing Medical Education—Special Events 122

Over the Editor's Desk 124
Harry L. Arnold, M.D.

Letter to the Editor—Hale Mohalu 126
Frederick A. Dodge, M.D.

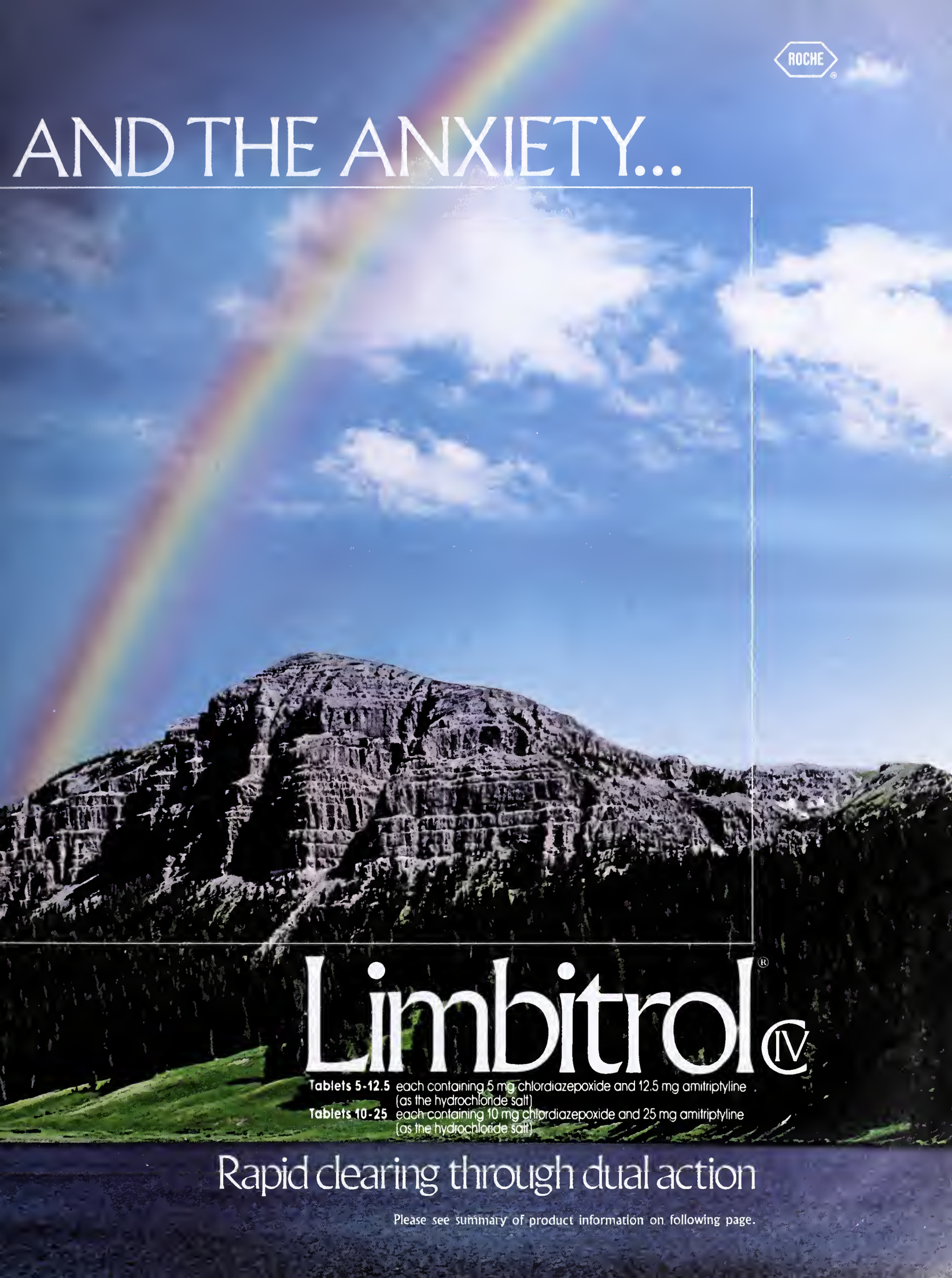
HAFP Newsletter 126
Dr. Don and Mrs. Marlies Farrell

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CLEARING: BOTH THE DEPRESSION...



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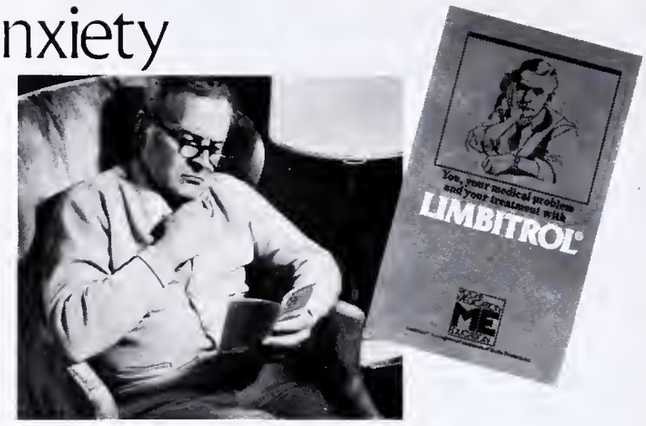
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*Feighner JP: *Psychopharmacology* 61:217-225, Mar 22, 1979.



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Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use; then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.

Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients. (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage; withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline; symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs:

Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke

Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido

Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns

Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract

Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.

Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue

Endocrine: Testicular swelling and gynecomastia in the male; breast enlargement, galactorrhea and minor menstrual irregularities in the female; elevation and lowering of blood sugar levels; and syndrome of inappropriate ADH (antidiuretic hormone) secretion

Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly.

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Improving perinatal care

Self-instruction in perinatal care is an important step toward upgrading perinatal education and care in Hawaii. The program outlined elsewhere in this issue represents the first organized, systematic approach in evaluating the equipment, staffing, facilities, policies and procedures, and knowledge in the various Neighbor Island and rural Oahu hospitals, which give much of the perinatal service in our state.

This program already has made a major impact on all areas of perinatal care studied. The best news would be that a program of this type could be continued and expanded.

Similar programs in other medical disciplines, such as internal medicine, surgery, and family practice also should be of benefit.

It is our hope that by publishing the article in this issue, someone somewhere will decide to continue such a program, or to develop another one to upgrade medical services in our state and in the Pacific Basin.

R.B. Boychuk, M.D., and D. Jasinski, M.D.

Consultations

There are a lot of us physicians around—circa 3,000 (but not all practicing)—in an island-state of almost a million people; this translates into one M.D. to 300 persons. This "average," of course, must be assessed in terms of perhaps one to a thousand on Molokai, as compared with the high density of physicians in Honolulu proper.

Hawaii is also blessed with the presence of highly sophisticated hospital centers and the specialists who staff them. There is hardly any need for a patient to go or to be sent to the Mainland for medical care, the few exceptions being notable, such as the recent heart-lung and liver transplant cases.

To refer a patient or problem to a specialist of top quality for a consultation presents no serious logistical difficulties to a primary care physician in Hawaii. And yet, we need to smooth out the procedures involved in both consultations and referrals.

To whom to refer?

To the very best physician suitable for your patient's well-being, safety, and even life itself, of course. When there are many highly qualified and skilled specialists available, the choice is easy. If the primary care physician is a member of a large group, or an HMO, a PPO, an IPN (to "acronymize" a few such), the choice may be skewed by the economics of the situation. Here, the best interests of the patient may not be well served. On the other hand, they may not be compromised enough to be actually detrimental to that patient. Both the referring and the referred-to physician must resist the vector of force in which the dollar sign looms large. By contrast, solo primary physicians, or those in small partnerships or primary care groups, are much freer of such "non-professional" pressures.

Now suppose there are gastro-enterologists, e.g., of equal caliber locally or even not too distantly available. Which one of them would you choose for your patient (we're excluding poker cronies and golfing partners!)?

The ideal consultant is: (a) one whom the patient might best like and trust—a friendly and concerned physician rather than a supertechnician with a cold heart; (b) one who arranges to see your patient as promptly as possible; (c) one who invariably reports the findings and recommendations back to you without undue delay, by phone or face to face if necessary, followed *always* by a legibly written (typewritten, preferred) report; (d) one who does *not* proceed with either sophisticated and expensive, particularly the invasive, diagnostic tests or treatment without *your* expressed consent; and (e) one who does *not* refer further without your knowledge and concurrence.

It goes without saying that that patient be returned to your care, with scrupulous attention to that important professional ethical principle. If, as sometimes happens, the patient insists on returning to the consultant for continuing care, it should *only* be with above-board understanding and agreement between all the parties concerned, obtained in a proper, decent, and courteous manner.

(*Next:* How to refer: The responsibilities of the referring physician)

J.I. Frederick Reppun, M.D.

Medical art exhibit

The Queen Emma Gallery at the Queen's Medical Center is presenting an exhibit titled "Human Form: From Egypt to the Renaissance," from April 1-29, in the main lobby. Gallery hours are 9 a.m. to 4 p.m. daily. Some free parking is available on Sundays.

This exhibit was developed in response to the question we are often asked: "What is an art gallery doing in a hospital?"

The culmination of a study of more than 3 years, this exhibit is a visual narrative of the historical development of the science of modern anatomy. It focuses on the relationship of major works of figurative art and the study of anatomy in the pre-scientific periods. Three motifs are represented—the nude human body, the skeleton, and the heart—beginning with the Egyptians and ending with the Renaissance.

The goals of the exhibit are to respond to such questions as when did it become important to know about the inside of the human body and how was the human form viewed when the direct study of anatomy was allowed and when banned. The representations of the human form created during those periods when human dissections were carried out continue to be regarded today as enduring and eternal masterworks of art.

The Hippocratic Collection is the earliest account of Western ideas about the human body. The information then was limited, but it recorded ancient knowledge about life and its processes. "Anatomy," as defined by the Greek naturalists, was derived from the words *ana temnein,* which mean "to cut up." Egyptian papyrus illustrations of the rite of mummification also suggest the practice of human dissection. Other indications of Egyptian knowledge of anatomy are the hieroglyphic symbols for anatomical parts, especially the heart.

Cultural borrowing from the Egyptians occurred in the Greek colony established in Alexandria after the death of Alexander the Great. The practice of human dissection flourished in the Museum or the House of Muses, and it is believed the ritual of mummification served to lessen the prejudice against opening up the body of the dead. Human dissections continued even after the death of Cleopatra and the conquest by the Romans. But, with the rise of Christianity and the later spread of Moslem influence, the study of anatomy in the ancient period came to an end.

Anatomical knowledge in Western civilization is derived largely from the written accounts of four physicians who practiced during different historical periods. Galen, a Greek physician in Roman times, was the earliest of these practitioners and studied anatomy through the dissection of animals. The tragedy for science was that this information became the final word on human anatomy for more than 1,500 years. During the Renaissance, the liberation from Galen's texts finally took place and anatomists were able to rejuvenate the science by fresh investigation.

Three authors—Mondino in the early 14th century and Berengario da Carpi and Andreas Vesalius in the 16th century—produced handbooks detailing the anatomy of the human body and dissection procedures. For his efforts, Mondino is regarded as the "restorer of anatomy," although his knowledge remained medieval in character.

The intervening Black Death of 1348 was to change the meaning of life for the general population. The "Triumph of Death" became a dominant theme in the religion of the medieval and Renaissance periods. No longer was the artist concerned with the depiction of the sculptured or the nude form. Art became an instrument for the Church to promote its beliefs about mankind's salvation and eternal life. Despite the strength of Christianity as a state religion, astrology loomed important in the minds of the populace. The power to protect and heal the body was linked to the moon and planets, and signs of the zodiac covered the human form in artistic representations.

The turning point for the establishment of modern anatomy came in the year 1543. Andreas Vesalius published his monumental work, *De Humani Corporis Fabrica Libri Septem (Seven Books on the Fabric of the Human Body),* and a companion volume, *Epitome.* They took the medical community by storm. Hereafter, anatomy was referred to as Vesalian anatomy. Conditions were ripe for the publication of the book. The manufacture of paper; the invention of the movable-type press by Gutenberg; the rise of the publishing industry; the recovery of ancient writings and the subsequent translation of Greek and Arabic texts into Latin; and the relaxation of ecclesiastical and secular prohibitions against dissection had hastened the establishment of centers of anatomical learning at the universities in Europe.

Where did artists fit into this scheme? The modern tradition of including the study of anatomy and life drawing in the training of artists had its roots in the Renaissance. Leonardo da Vinci contributed materially to the history of anatomy through the forms he gave to the tissues that compose layers of skin, muscles, and connections to bones. So skillful was Leonardo's ability to record his observations of dissected materials that he was able to use these forms interchangeably in human and animal bodies. Only a physician could distinguish one from the other. There is every reason to believe that Titian, as a budding artist in Venice, heard about Leonardo's artistry and teachings. A young artist who was a favorite of Titian, John Stephen of Calcar, was commissioned by Vesalius to do the illustrations for *De Fabrica.*

This exhibit at Queen's recognizes artists, physicians, and scholars who depicted the human form prior to the invention of the microscope, camera, and X-ray. There are many facets of this subject that could not be covered, and it is hoped that others will



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be inspired to take up where this exhibition ends.

In conjunction with the exhibit, free public lectures are scheduled for April 8, 28, and 29, at 7:30 p.m. at the Mabel Smyth Auditorium. Topics are: "Man as Microcosm: Leonardo's Anatomical Drawings" by Roger A. Dell, curator, Gallery Education Program, Honolulu Academy of Art; "Islamic Art: Body as a Symbol" by Elton L. Daniel, Department of History, University of Hawaii-Manoa; "Evasion of the Body Snatchers" by Lee Siegel, Department of Religion, University of Hawaii-Manoa; and "The Naked and the Nude: Aesthetics of the Human Form" by Frank Tillman, Department of Philosophy, Hawaii Loa College.

This project is made possible by a grant awarded to the Queen Emma Gallery, under the sponsorship of The Queen's Medical Center Auxiliary, by the Hawaii Committee for the Humanities, an agency of the National Endowment for the Humanities, a privately endowed and federally funded organization dedicated to the dissemination of the humanities.

Requests for the circulation of this exhibit already have been received from the University of Hawaii Schools of Medicine and Public Health, Punahou School, Hawaii Medical Library, and from the John Hopkins Institute of the History of Medicine, Baltimore, Md.

Our goal is to have the exhibit displayed throughout the state in all health and educational institutions after the April 1 opening at the Queen Emma Gallery.

We invite physicians and others to be patrons in our fundraising effort. Each dollar raised will be matched by 85¢ from the Hawaii Committee for the Humanities.

Masa Morioka Taira
Chairman, Queen Emma Gallery
Phone 547-4397

(Ed. Note: Masa Morioka Taira has been volunteer chairman of the Queen Emma Gallery since its inception in 1977. Her interest in the hospital environment stems in part from her education as a nutritionist-dietitian and as instructor in the former Queen's Hospital School of Nursing.)

The Reference Committee

Part II

In the March 1984 issue of this JOURNAL, reference committee procedures were discussed and new rules suggested, in order to allow for more and better HMA member input.

Elsewhere in this issue of the JOURNAL is a letter from Fred Dodge, M.D., who practices at the Waianae Coast Comprehensive Health Center and who has been a longtime supporter of the Hale Mohalu 'ohana. What he brings up is pertinent to action taken by the HMA's House of Delegates at Wailea on Maui at its 127th annual meeting in October 1983 on Resolution No. 10 submitted by Robert Wong, M.D. and the undersigned.

Resolution No. 10 asked for HMA support in condemning the action of the State of Hawaii in evicting the few remaining residents at Hale Mohalu, victims of the once dreaded Hansen's disease. The issue of the treatment of these patients, whether medical or non-medical, should be a concern of the organized medical community and, in fact, of all physicians everywhere.

The House of Delegates, through the mechanism of open hearings in front of its reference committees, should treat all input from HMA members with equal gravity and respect. In this instance, the Reference Committee on Public Health should have realized that the absence of Dr. Wong from the hearing did prejudice a fair appraisal of the facts presented, and, therefore, it should have recommended to the HOD that the matter be referred for further study, rather than " . . . (that) it not be adopted." For like reason, the House voted *for* the recommendation *not* to adopt.

The RESOLVEDs of Resolution No. 10 stated: "that the HMA adopt the position that the land on which Hale Mohalu sat be maintained for the benefit of and use by leprosy patients, and . . . that the HMA strongly urge the State of Hawaii to construct a new treatment and residence facility on the Hale Mohalu site for leprosy patients." This resolution was authored by Robert T. Wong, M.D., a longtime active HMA member and consultant in ophthalmology to the territorial and state Hansen's disease programs for 35 years.

The main point of contention in the deliberation on the resolution seemed to be whether the federal government granted the then Territory of Hawaii the right of ownership of the 11-acre parcel with its existing structures and facilities, with the stipulation that it be for the use of Hansen's disease patients "permanently," or only for 20 years. Dodge's letter speaks to that issue.

When the HMA reference committee heard the pros and cons on Resolution No. 10, the facts delineated in Dodge's letter were not known to it. The committee received only a "recollection": that the agreement on Hale Mohalu was only for a duration of 20 years, after which the (now) State of Hawaii could do whatever it wanted with the land and the neglected and dilapitated structures.

The issue put before our HOD was not a proposal to adjudicate a legal point that had already gone through the courts (we understand that an appeal is in process), but for us, as empathic physicians concerned with the health and well-being of people, to take a stand based on our professional expertise in the care of these afflicted ones. The reference committee's rationale for recommending a *no* vote indicated an ignorance of the gist of the resolution when it said: ". . . (the committee) noted that the present facilities are adequate for the current population and would not justify building new facilities."

Here again, as in the Part I editorial on The Reference Committee in the previous issue of the JOURNAL, we wish to point out that the proceedings of the House of Delegates of the HMA need to reflect serious and well-balanced discussions of medical and paramedical issues at the reference committee levels based on unrestricted input from HMA members and supported by adequate study and deliberation.

J.I. Frederick Reppun, M.D.

HMA Auxiliary

MADD

Joint efforts of the Auxiliary and newly formed state chapters of MADD made the February seminars on drunk driving so successful that Candy Lightner, founder of MADD, declared, "In all my travels in our country and Canada, I have never seen a more enthusiastic, harder working, and better organized group of people than in Hawaii."

The meetings began on Maui, with the efforts of **Leanna Stodd, Betsy Haines,** and other Auxiliary members.

Lightner then went on to the Big Island, where **Betty Ghosh, Sue Irvine, Jo Lundborg,** and members of the Auxiliary and MADD had arranged seminars in Hilo and Kona, plus a panel discussion for the public at the University of Hawaii at Hilo.

The Honolulu effort included a public evening discussion at McKinley High School, with a community health seminar the following day. The committee, including **Carol McNamee, Nancy Simmons, Anita DiMauro, Gloria Brust, Emily Callan, Bonnie De Journett, Lila Johnson, Berna Yim,** and **Jonetta Young,** did a tremendous job of securing sponsors, speakers, and facilities. Seminar audiences ranged in age from 17 to 66.

Charley's Taxi assisted by printing posters and bumper stickers reading "If you drive, don't drink. If you drink, call Charley's."

Tuxedo rental companies are tucking statistics on drinking and driving into the pockets of clothes they'll rent to prom-goers this spring, showing further community support.

So why, ask **Berna Yim, Lina Semenza,** and **Nancy Simmons** of the HMA/A legislative committee, hasn't the legal drinking age been raised to 21? During the last legislature the House of Representatives passed it, but this year the Senate judiciary committee has not placed it on the agenda.

Improving Perinatal Knowledge and Care—

A Self-Instruction Program

Rodney B. Boychuk, M.D., F.R.C.P. (c), F.A.A.P., and
Jane C. Nelson, M.A., Honolulu

• *From 1980 to 1983 a major effort was made to deliver an outreach perinatal education program to rural-community hospital personnel who were participating in perinatal care in the state of Hawaii. The educational program is a 6-month offering. It is: (1) initiated by a hospital self-inventory; (2) rural-community-hospital-based; (3) self-paced and self-instructional; (4) participated in by nurses, physicians, and support personnel thus facilitating uniform patient care and nurse-physician communication.*[1] *With this approach, participation was good, changes in cognitive knowledge were significant, and major changes occurred in equipment and services available. Only slight attitudinal changes occurred, but these were generally in the areas of anticipating perinatal problems, with nurses taking a more active role in caring for infants. Pre-transport stabilizing activity revealed actual changes in care practices following the program. Continuation of and further dissemination of this program within our state could continue to improve significantly the quality of perinatal care and to decrease perinatal mortality and morbidity rates in Hawaii.*

Since more than 50% of babies in Hawaii are born outside of the major teaching center and since many of these are premature, at risk, or suffer from congenital anomalies (Table 1), an outreach educational program is an essential part of the perinatal regionalization plan for the state. Previous teaching programs have included lectures and seminars held at Kapiolani/Children's Medical Center and various outreach lectures and programs. However, this approach seemed too superficial, not directed at the practical problems of Hawaii's community hospitals, and attracting only a portion of community hospital professionals. There was no inherent mechanism for disseminating basic or new information to other community perinatal personnel or to "new" perinatal personnel.

The 6-month educational program utilized in this study was developed by John Kattwinkel's group from the University of Virginia School of Medicine.[1] It is initiated by a hospital self-inventory, through which patient care goals and the corresponding equipment services and personnel needs are identified; (2) entirely rural-community-hospital (CH) based, except for a workshop held at the regional center for two CH staff nurses, who subsequently coordinate the program in their hospital; (3) self-paced and self-instructional (3 books cover 20 subjects and 21 skills); and (4) completed by nurses, physicians, and support personnel; this facilitates uniform patient care and nurse-physician communication.[1]

Methods

The course was offered in Hawaii from 1980 to 1983 at 7 rural community hospitals delivering the majority of rural perinatal care. These included Hilo and Kona hospitals on the Island of Hawaii; Wahiawa Hospital on the Island of Oahu; Wilcox and Veterans hospitals on the Island of Kauai; Molokai Hospital on the Island of Molokai; and Maui Memorial Hospital on the Island of Maui.

Characteristics of these hospitals were as follows: delivery rates ranged from 70 to 1,241; none had house staff; all but one had at least one board-certified obstetrician, pediatrician, and family practitioner on the staff; and all but one were located in population areas of less than 100,000. All had had some exposure to at least one of the previous perinatal continuing education programs.

Initial contacts were made with the chiefs of the departments of obstetrics and pediatrics, the directors of nursing, and the hospital administrators. Then followed a detailed letter, with brochures describing the program, and a formal visit to the hospital to discuss the details of program activities with the administrative staff. Two staff nurses—one from obstetrics, one from the pediatric-neonatal area—from each of the hospitals then attended a week-long seminar at Kapiolani/Children's Medical Center to learn the skills and techniques required to function as program "coordinators" in their own hospitals.

To identify the needs of each community hospital perinatal service and, thus, to design an effective intervention strategy, sets of "inventory forms" were distributed and completed by obstetric nurses, pediatric (neonatal) nurses, and perinatal physicians. These forms allowed each CH staff to describe their own facilities, staffing needs, inadequate equipment, or inadequate knowledge regarding its use. They also allowed physicians to specify types of obstetrical and neonatal patients cared for within the CH vs. those referred, and identified absent or inadequate hospital policies for identification and treatment of high-risk mothers and infants.

A "needs list" of procedures, practices, equipment, and staff additions required to meet each hospital's own patient care goals was generated utilizing current rec-

TABLE 1.*

Perinatal services provided by hospitals in State of Hawaii (1978)

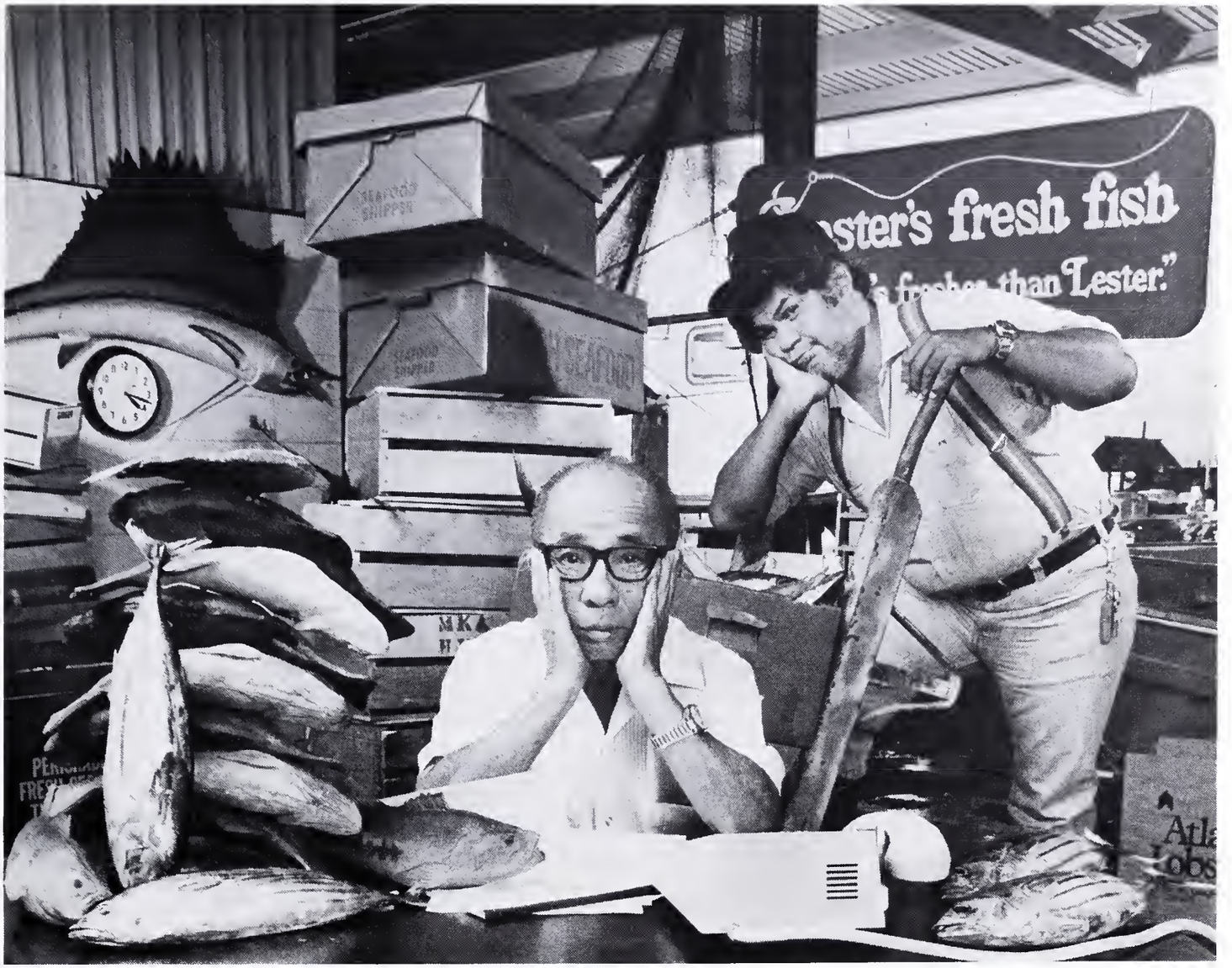
HOSPITAL:	OBSTETRICAL BEDS	NEONATAL BASSINETS	NUMBER OF DELIVERIES (1978)	COMPLICATIONS OF LABOR	CONGENITAL DEFECTS	BIRTHS UNDER 1001 GRAMS	BIRTHS 1001-2500 GRAMS
1. Castle	14	13	545	133	5	5	5
2. Hilo	18	20	1,062	235	12	4	87
3. Kahuku	3	5	203	0	1	2	6
4. Kaiser	30	31	1,573	609	20	3	109
5. Kauai Vets	7	9	196	36	0	1	13
6. Kona	8	8	380	68	6	0	27
7. Maui Mem.	24	5	1,908	98	6	4	74
8. Molokai	2	4	79	3	1	0	1
9. Queen's	25	35	1,385	129	11	18	80
10. Wahiawa	14	6	349	45	5	2	21
11. Wilcox	9	9	530	166	7	3	45
12. Kapiolani/ Childrens Medical Center	62	98	5,506	713	51	48	407
TOTAL	216	243	12,816	2,235	125	90	875

* Department of Health, State of Hawaii, Statistical Report (1978).

Department of Pediatrics, John A. Burns School of Medicine, University of Hawaii, and Kapiolani/ Children's Medical Center, Honolulu, Hawaii 96826.

Supported by Grants #CPE 50 from The March of Dimes Birth Defects Foundation, 1980-1983 (National Foundation and Chapter of the Pacific).

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ommended standards.[2, 3] This was returned to the individual hospital staff members in the form of a letter, and then discussed in detail at a formal meeting between CH personnel and Dr Boychuk.

To measure attitudes toward perinatal care practices, a 63-question attitude survey with a Likert-type format response was administered.[4] The primary factored attitudes measured included: (1) anticipation is not necessary; (2) nursing role should be active; (3) nursing role should be to follow orders; (4) the referral hospital uses too many procedures; (5) hospital routine has priority.

Following this, a comprehensive perinatal knowledge test was administered. Then over the next 4 months, hospital personnel completed the comprehensive self-instructional program of more than 600 pages, covering 20 subject areas and 21 skills (Table 2). Separate intra-unit tests were completed before and after each unit in an effort to test short-term cognitive learning, and to "police" completion of each unit.

Each coordinator organized the mechanics of program operation (e.g., distributed education materials, collected test answer sheets, tabulated individual completion rates), and conducted practical teaching sessions for the associated skills.

Approximately half-way through the 4-month self-instructional period, separate half-day skill sessions were conducted by the author and colleagues in the community hospitals. At these sessions, sections of human umbilical cords were used for practicing umbilical artery and vein catheterization.[5] Ketamine-sedated cats were used as subjects for practicing endotracheal intubation.[6] Techniques of exchange transfusion, dextrostix monitoring, resuscitation, cardiac message, blood pressure monitoring, measuring and blending oxygen and air, continuous positive airway pressure devices, and other respiratory devices were demonstrated, and films on fetal monitoring and Dubowitz assessment were presented.

At the end of the 4-month period, the same comprehensive test of perinatal knowledge was administered as a post-test and a "graduation" was held, with participants receiving certificates and continuing education credits. Finally, the same "hospital inventory" and attitude survey were administered post-course and compared to the pre-course inventory.

Evaluation

Program effectiveness was evaluated by measuring 5 factors: (1) program acceptance (the numbers of intra-unit tests and pre- and post-program tests completed); (2) cognitive change (pre- vs. post-unit tests and comprehensive tests); (3) facilities change (pre- vs. post-program inventory); (4) change of attitudes (pre- vs. post-program attitudes survey); and (5) changes in care practices

TABLE 2.

Contents of Perinatal Continuting Education Program

Fetal Evaluation
- Unit 1: Overview
- Unit 2: Identifying High Risk Pregnancies
- Unit 3: Evaluating Fetal Maturity and Well-Being
- Unit 4: Monitoring the Fetus During Labor and Delivery Skill: Fetal Monitoring

Immediate Newborn Assessment
- Unit 5: Is the Baby Sick?
- Unit 6: Resuscitating the Newborn Infant
 - Skills: Apgar Scoring
 - Bag and Mask Ventilation
 - Endotracheal Intubation
 - Cardiac Massage
 - Medication Administration
- Unit 7: Sizing and Determining Gestational Age in Newborn Infants
 - Skill: Dubowitz Assessment

Newborn Care: Concepts and Procedures
- Unit 8: Controlling Temperatures of Sick and At Risk Infants
 - Skills: Operating Radiant Warmers
 - Operating Incubators
 - Setting Neutral Thermal Environment
- Unit 9: Giving Oxygen to Sick and At Risk Infants
 - Skills: Measurement of Oxygen Concentration
 - Heating and Humidifying an Oxygen/Air Mixture
 - Mixing Oxygen and Compressed Air
- Unit 10: Identifying and Caring for Infants with Respiratory Distress and Apnea
 - Skill: Continuous Positive Airway Pressure*
- Unit 11: Inserting and Using Umbilical Catheters with Sick and At Risk Infants
 - Skill: Inserting Umbilical Catheters
- Unit 12: Identifying and Caring for Infants with Low Blood Pressure
 - Skill: Flush Blood Pressure Measurement
- Unit 13: Identifying and Caring for Infants with Hypoglycemia
 - Skill: Dextrostix Test
- Unit 14: Giving IV Therapy to Sick and At Risk Infants
 - Skill: Starting Peripheral IVs
- Unit 15: Feeding Sick and At Risk Infants
 - Skill: Nasogastric Tube Feedings
- Unit 16: Identifying and Caring for Infants with Hyperbilirubinemia
 - Skill: Exchange Transfusion
- Unit 17: Identifying and Caring for Infants with Infections

Complex Newborn Care
- Unit 18: Review: Is the Baby Sick? Identifying and Caring for Sick and At Risk Infants
- Unit 19: Preparation of the Baby for Transport
- Unit 20: Continuing Care for At Risk Infants

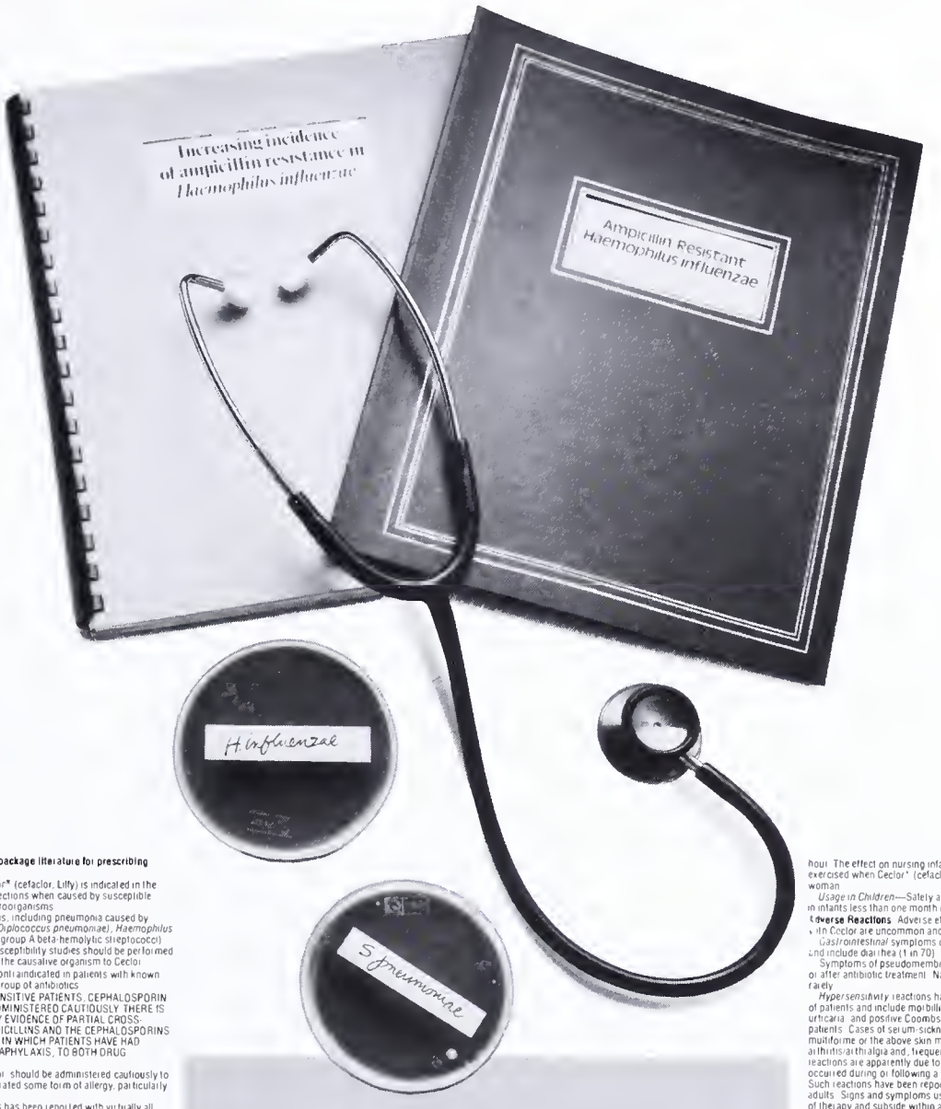
TABLE 3.

Program participation—all hospitals*

	Started No.	Completed No.	Completed %	Dropped %
Physicians				
Obstetrician	9	6	67	33
Pediatrician	18	14	78	22
Family Practice	25	18	72	28
Total	52	38	73	27
Nurses				
RN	98	87	89	11
LPN	35	31	88	12
CRNA	5	5	100	0
Total	138	123	89	11

* 1980-1982 Data

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Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out

Precautions *General Precautions*—If an allergic reaction to Ceclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers—Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one hour. The effect on nursing infants is not known. Caution should be exercised when Ceclor® (cefaclor, Lilly) is administered to a nursing woman

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established

Adverse Reactions Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70)

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients)

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

(061782R)

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.*

Note: Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information

References

1. Antimicrob. Agents Chemother., *8*: 91, 1975
2. Antimicrob. Agents Chemother., *11*: 420, 1977
3. Antimicrob. Agents Chemother., *13*: 584, 1978
4. Antimicrob. Agents Chemother., *12*: 490, 1977
5. Current Chemotherapy (edited by W. Siegenthaler and R. Luthy), II 880. Washington, D.C.: American Society for Microbiology, 1978
6. Antimicrob. Agents Chemother., *13*: 861, 1978
7. Data on file, Eli Lilly and Company
8. Principles and Practice of Infectious Diseases (edited by G.L. Mandell, R.G. Douglas, Jr., and J.E. Bennett), p. 487. New York: John Wiley & Sons, 1979

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285

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(pre- vs. post-analysis of pre-transport, stabilizing activity). Statistical analysis included Student's t-testing and chi-square analysis.

Results

Program participation and completion rates for all hospitals combined are shown in Table 3. About 73% of physicians and 89% of nurses who started the course completed it.

Changes in knowledge were significant. Performance in all subject areas (Table 4) by all groups (Table 5) improved. Overall, the community hospital performance improved from 67% to 96%. The initial test scores were directly related to the degree of previous training achieved by each professional group, with the pediatricians having the highest scores, the course being definitely weighted towards neonatology.

Analysis of the hospital inventories returned to us indicated definite needs in all 7 hospitals (Table 6). However, the quantity of "needs" (equipment, services, and procedures) was reduced by factors of from 50% to 88% following the program. This reduction in hospital needs was due to an absolute addition of perinatal facilities and a greater awareness of the presence of existing facilities.

The attitude survey was analyzed utilizing a 5-number Likert-type format response for each statement (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree). Our interpretation for analysis was ≤ 2.5 signifies disagree, where as ≥ 3.5 signifies agree.

Analysis of the attitudes held by the participants of the program allowed several distinct attitudes to surface (Tables 7 and 8). Some changed during the course of the program.

Most physicians and nurses felt that awareness and anticipation of potential complications are crucial in providing better perinatal health care. The training sessions, however, clearly had an impact on this attitude for some participants. The number that disagreed with the concept that anticipation is futile increased for both groups after the program and reached a significant proportion among the nurses in particular. Since this attitude is a reflection of one of the major goals of the program, it offers support for the importance of the sessions in the outreach hospitals.

Little change was seen in the nurses' attitude about their responsibilities in providing health care. Most already believed that an active role is warranted, while most disagreed with the thought that their actions should be dictated solely by established protocol or physicians' orders. The attitudes of the physicians, on the other hand, did show interesting and significant changes through exposure to the program; at the onset, some 14% did feel that the nursing role should be passive, but none agreed with this inter-

TABLE 4.
Changes in cognitive knowledge
Comprehensive test performance
(All participants included)
(N = 117)

	Pre %	Post %	Change %	P Value
Neonatal	58.4	89.7	+31.3	3.02×10^{-6}*
Respiratory Distress	65.7	88.8	+23.1	2.98×10^{-4}*
Sizing	73.3	91.7	+18.4	1.98×10^{-3}*
Resuscitation	56.1	89.3	+33.2	1.98×10^{-6}*
Obstetric	78.9	95.7	+16.8	2.19×10^{-3}*
	66.5	91.1	+24.6	4.45×10^{-5}*

* Significant at < 1% level.

TABLE 5.
Pre- and post-test comprehensive exam results

	Pre test %	Post test %	P value
Physicians			
OB (N=5)	77	97	8.4×10^{-4}**
PED (N=9)	90	95	4.7×10^{-2}*
FP (N=11)	70	91	1.8×10^{-2}*
Nurses			
RN (N=87)	66	89	6.98×10^{-9}**
LPN (N=25)	58	90	5.0×10^{-8}**
OTHER (N=4)	71	90	2.9×10^{-2}*
Combined: Physicians & Nurses (N=141)	67	96	4.28×10^{-5}**

* Significant at 5% level
** Significant at 1% level

TABLE 6.
Changes in hospital inventory ("needs"): pre- vs. post-program

Hospital	"Needs" identified pre-program No.	"Needs" identified post-program No.	Difference pre-post program	Identified needs corrected %
Wahiawa	34	4	30	88
Molokai	26	11	15	58
Kauai (Vets)	58	9	49	84
Kona	31	4	27	87
Maui*	66	16	50	76
Hilo*	40	20	20	50
Kauai *(Wilcox)	30	12	18	60

* Needs identified assuming Level II Operation

TABLE 7.
Comparison of attitude changes
% that agree (score ≥ 3.5)

	Physicians			Nurses		
	Pre N = 29	Post N = 13	P value	Pre N = 124	Post N = 78	P value
1. Anticipation is not necessary	7	15	0.114	5	1.3	.274
2. Nursing role—active	66	54	.112	77	74	.742
3. Nursing role—follow orders	14	0	.0031*	9	8	.973
4. Referral hospital uses too many procedures	14	31	.0067*	7	5	.766
5. Hospital routine is priority	24	15	.153	10	4	.166

* Significant at 1% level



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pretation at its conclusion.

A second and perhaps less desirable attitudinal change was observed among the physicians regarding their interaction with the referral hsopital. At the outset, some 75% disagreed on the point that unnecessary procedures and excessive red tape were required, but 46% shared this same attitude when the program was completed. There was a reciprocal but less dramatic change observed for those who now agreed. No similar change appeared among the nurses regarding this point; most were either neutral or disagreed. This discrepancy is more than likely a reflection of the fact that the physician is more likely to deal directly with the referral hospital. It also indicates that the rationale for the procedures employed by the referral hospital was not made entirely clear. Thus, this question has brought recognition of a deficiency that needs to be modified in future sessions.

To evaluate changes in care practices, we compared pre-transport stabilizing activity one year before the program began to that one year after its completion. Initially, we attempted to pair pre- to post-newborn babies by comparing only babies with similar diagnosis, gestational ages and birth weight from each hospital (Table 9). This task, however, became too cumbersome; therefore, we examined in detail one hospital (Hilo) with a large referral population (Table 10). Although the pre-transport stabilizing activity performance was different in each hospital, the total number of pre-transport stabilizing activities was significantly greater after the program than before when all hospitals were combined.

TABLE 8.

Comparison of attitude changes
% that disagree (score ≦ 2.5)

	Physicians			Nurses		
	Pre N = 29	Post N = 13	P value	Pre N = 124	Post N = 78	P value
1. Anticipation is not necessary	48	62	.065	59	74	.036*
2. Nursing role—active	3	8	.215	4	1.3	.454
3. Nursing role—follow orders	34	38	.659	48	49	.990
4. Referral hospital uses too many procedures	76	46	2.6×10^{-5}**	46	46	—
5. Hospital routine is priority	28	38	.176	35	38	.769

* Significant at 5% level
** Significant at 1% level

TABLE 9.

Pre-transport stabilizing activity performance
All hospitals (47 cases pre-program, 46 cases post-program)

Activity	Pre-program N***	%	Post-program N***	%	P value
Blood pressure	19	40	20	43	.930
Hematocrit	29	62	37	80	.078
Dextrostix or blood glucose	33	70	35	76	.686
Chest X-ray	34	72	40	87	.136
Blood culture	17	36	28	61	.0295 *
Arterial blood gas	42	89	43	93	.735
Total	174	62	203	74	.00375**

N***= Number of times the activity was performed
* = Significant at the 5% level
** = Significant at the 1% level

TABLE 10.

Pre-transport stabilizing activity performance
Hilo Hospital (22 cases evaluated)

Activity	Preprogram N***	%	Post Program N***	%	P Value
Blood pressure	11	50	9	41	.762 *
Hematocrit	13	59	21	95	.0117 *
Dextrostix or blood glucose	11	50	17	77	.117
Chest X-ray	15	68	21	95	.0507 *
Blood culture	6	27	16	73	.0066
Arterial blood gas	19	86	21	95	.599
Total	75	57	105	80	.000127**

N***= Number of times the activity was performed
* = Significant at the 5% level
** = Significant at the 1% level

Discussion

Data from the present study confirmed the assumption that low levels of perinatal care existed in the community hospitals. All 7 hospitals showed deficiencies on pre-program measures such as equipment, services, staffing, cognitive knowledge, and skills required to meet basic standards of perinatal care. All hospitals improved following the program.

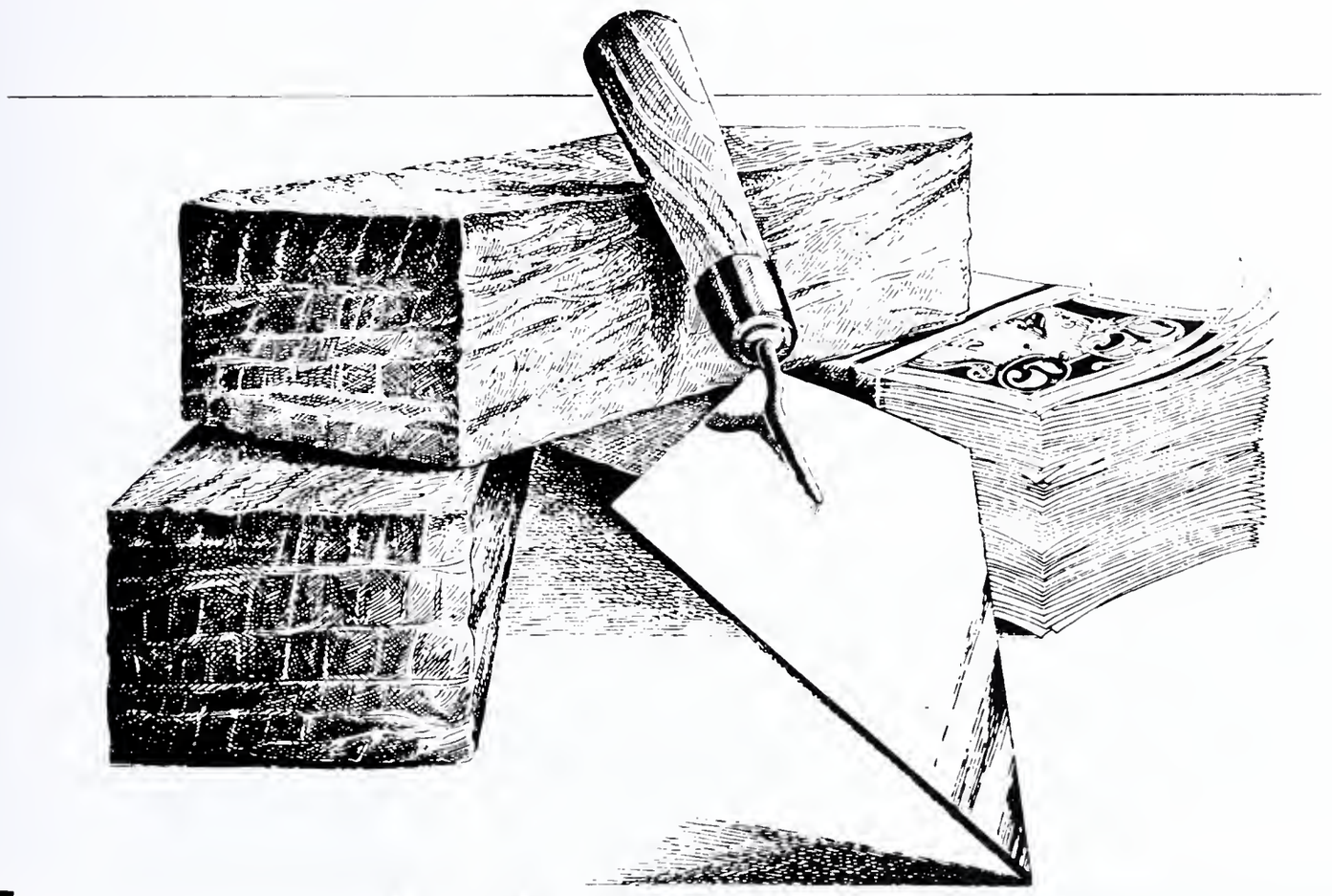
The educational program utilized during this project was designed to disseminate current knowledge by practical methods. It was designed to develop intervention techniques capable of changing care practices. The data evaluated suggested that this approach was successful. Participation was good, changes in cognitive knowledge were significant, major changes occurred in equipment and services available in a community hospital, yet slight attitudinal changes occurred (these were generally positive in the areas of anticipating perinatal problems and nurses taking a more active role in caring for infants)and pre-transport stabilizing activity revealed actual changes in care practices following the program.

It is the authors' impression that continuation and further dissemination of this program within our state could continue to significantly improve the quality of perinatal care and decrease perinatal mortality and morbidity rates in Hawaii.

REFERENCES

1. Kattwinkel J, Cook LJ, Nowacek GA, et al.: Improved perinatal knowledge and care in the community hospital through a program of self-instruction. *Pediatrics* 64:451, 1979.
2. Committee of Perinatal Health: Toward improving the outcome of pregnancy: Recommendations for the regional development of maternal and perinatal health services. White Plains, New York, The National Foundation-March of Dimes, 1976.
3. American Academy of Pediatrics: Standards and recommendations for hospital care of newborn infants, ed. 6 Evanston, Ill., American Academy of Pediatrics, 1978.
4. Kattwinkel J, Cook LJ, Nowacek GA, et al.: Attitudes toward perinatal care in community hospitals. *Pediatr. Res.* 12:447, 1978.
5. Clarke TA, Levy L, Mannino F: Use of the placenta as a teaching model. *Pediatrics* 62:234, 1978.
6. Jennings PB, Alden ER, Brenz RW: A teaching model for pediatric intubation utilizing ketamine-sedated kittens. *Pediatrics* 53:283, 1974.

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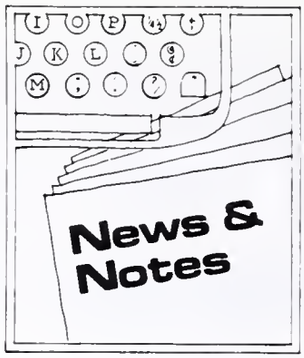
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Life in These Parts . . .

The following is a Yale joke that QMC medical education director **Dennis Meyer** wanted to tell (but was restrained by his prudent wife) when introducing Samuel Thier, visiting professor from Yale University School of Medicine, at a Friday morning QMC conference . . . , "A freshman at Yale was lost on campus and asked an upper classman, 'Where's the library at?' The upperclassman looked down at the freshman, 'At Yale, we never end a sentence with a preposition!' Retorted the angry freshman, 'Then, where's the library at, stupid!'" (Dear Denny: our apologies to your wife.)

KMC surgical conference . . . A 57-year-old woman with a past medical history of breast CA was found to have a left thyroid lobe papillary carcinoma . . . She had a total thyroidectomy by an excellent surgeon who had to resuture her right recurrent nerve. **Max Urata** asked, "Can she sing?" The attending surgeon replied, "She can sing, but not too long . . ." Max elucidated, "One of **Carl Moyer's** pearls was that with recurrent nerve palsy, the patient cannot sing." Interjected gruff-voiced **Yutaka Yoshida,** "Hell! Some of us can't sing anyway . . ."

Lulumafuie Fiatoa, a third-year resident in pediatrics at Kapiolani-Children's Hospital, was involved in a 1981 brawl that resulted in the death of a woman. He was acquitted of the murder charge, but convicted of assaulting the victim's boyfriend. When things seemed the darkest, 61 Honolulu physicians signed a heart-warming letter of support for Lulumafuie. Herein are excerpts of the letter written by Chief of Pediatrics **Sherrel Hammar:** "Dr. Fiatoa is a caring, competent and very well-respected resident pediatric physician. His performance has always been in accord with the highest medical standards. He is a man and doctor of firm religious beliefs and morals and none of us would ever hesitate to refer our patients to him, indeed to have him treat our own children . . . We feel strongly that what Dr. Fiatoa has to offer as a physician in Hawaii must not be jeopardized by results of his trial. His sound medical judgment, knowledge, compassion, and high moral and ethical values unquestionably make him an asset to Hawaii medical community. We all respect him as a doctor and support him as a colleague . . ."

Hilo Hospital administrator John Hankins was called to Honolulu and fired by state health director Charles Clark. This sparked bitter protests from Hilo physicians and hospital staff. Chief-of-staff **Manas Ghosh** said, "The entire hospital staff is shocked and outraged with this abrupt decision . . . It demonstrates the inefficient, incompetent, autocratic administration by the state of this hospital . . ." Hankins, a veteran hospital administrator and consultant, was at odds with state officials on how the state hospital system should be operated and about an equipment system planned years ago for Hilo Hospital and which he wants to maintain . . . He doesn't care whether it be operated by the state, or by a hospital district or by a non-profit corporation, as long as it is effective. He cited the tremendous amount of bureaucratic red tape continuously occupying the hospital's staff, which instead should be busy running the hospital. "The staff is thwarted constantly by the red tape, paperwork, the compilation of statistics and financial data, and compliance with orders from various state departments . . ."

Hospital Plan: 'From Peter to Pay Paul'

The DSSH plan to save $28 million in Medicaid expenses could cost the state and county hospitals $11 million . . . Earl Motooka, DSSH medical care administrator, acknowledges "You might have to take from Peter to pay Paul . . ." The projected $28 million saving will be allocated as follows: $8.7 million from acute care hospitals, $5.6 million from skilled nursing facilities and $14 million from intermediate care facilities. Bad timing, because when Medicare's new system starts, hospitals will be moving patients out fast and SNF's will be getting more difficult patients requiring specialized care, but at the same time will be under pressure to keep costs down. (Ed: Something has to give and we hope it won't be quality of patient care . . .)

Henry Thompson, SHPDA administrator, appointed 15 people last July when the House asked SHPDA to study the feasibility of a Hawaii Health Care Cost Review Authority and to study other methods of cost control, e.g. prospective payment, DRGs, cost-sharing for Medicaid beneficiaries, encouragement of out-patient surgery etc. The 196-page report, however, did not make its own specific recommendations for controlling health care costs, but instead studied comprehensive data about factors affecting health care costs, including the insurance system, hospital operations, medical technology, population increases, and consumer awareness of the availability of medical care. Rep. Connie Chun was "flabbergasted" at the report and expressed her displeasure with the SHPDA study for which the legisla-

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Connie, who speaks her mind, commented, "I don't know what you people did because none of these recommendations are in the report."

A GP's Viewpoint

(Contributed by Fred Reppun)

Straub has done it again!

The well-organized "Cardiology Update '84" (**Ray Itagaki,** graduate of our UH School of Medicine, did the choreography), the second such annual symposium, provided a mixed audience of 325 registrants from all walks of health care and interest a gourmet serving of the very newest and latest in the cardiovascular field. The locale, in the Ilikai's spacious convention center, was superb (except that it tried to make all our Mainland guests feel at home, coming, for the most part, from the severest winter the continental USA has ever had, by lowering the thermostat to near-freezing in the great hall).

The 4 very full mornings started appropriately on Valentine's Day.

This symposium was dedicated to the memory of Dr. Barney Clark, that remarkable man who was given little hope of overcoming his irreversible heart disease, yet willing to sacrifice himself for the advancement of medicine by submitting to a very first in experimentation—the implantation of a prosthetic mechanical heart. His widow gave the opening address; she was obviously as dedicated to furthering the same goal and is touring the country under the auspices of and in support of the American Heart Association. She spoke eloquently and pleaded for a continuation of the attack on the No. 1 cause of death in the USA: heart disease. (So where does that leave humanity if ASCVD is "conquered?")

In keeping with this conference's choreography, on the last day we were treated to a firsthand account—straight from the horses' mouths, as it were—of the artificial heart implantation at the University of Utah Medical Center. Dr. Clark survived for 112 days; he did not complain of pain and he enjoyed visits with family and friends. The medical management of the complications that occurred in his body, coupled with some mechanical failures in the Jarvick-7 heart itself, was a learning experience for many medical disciplines, comparable to the dividends accruing from NASA's space flights in orbit of the Earth and to the Moon. One of the most extraordinary of these spin-offs was the realization that when his chronic pre-surgery hypotension (80 systolic) was raised to "normal," a complicating brain seizure might have been the result of over-perfusion of a sensitive organ unaccustomed to normal levels.

Robert Jarvick, M.D., of Salt Lake City, medical engineer par excellence, gave a vivid description of the years of ex-



Left to right: Audi 5000S Wagon, Porsche 944, Porsche 911 Carrera Targa, Porsche 911 Carrera Cabriolet, Audi 4000S, Porsche 911 Carrera Coupe, Porsche 928S, Audi 5000S.

perimentation, first with mechanical models, then the implantation into calves, sheep, and monkeys. Cardiac surgeon **William DeVries** followed with a detailed and well-illustrated account of the ultimate bold and daring step: the first "experiment" on a human being.

Not the least interesting aspect was the solving of the many and serious problems involving ethics, law, governmental regulations, the support from the family, and the community, etc. The Medical Center itself was given high praise. Of 78 applicants who wanted to be chosen the first patient, only Dr. Clark met all the criteria. Most remarkable of all, for us in the rapt audience to appreciate, was the complete sense of trust exhibited between the Clarks and their physicians before, during, and after the immensely difficult procedure, and the candor with which these same physicians now analyzed the "mistakes" that were made, truly inadvertent and unanticipated, revealing all to the public, and with Mrs. Clark present. Indeed, Mrs. Clark was an integral member of that team. Her courage, then and now, emulates that of her husband, and of the medical/surgical/hospital conglomerate that made such an effort. Success should be measured more in terms of the advancement of medical research, rather than in days of survival.

Finally, we were shown the remarkable improvements in hard technology—the change in the size of the permanent extracorporeal structure from that of a VW "van" to that of a VW "bug," and then to the size of the VW engine alone to which Dr. Clark was tethered as he ambulated a bit. Already they have developed a portable shoulder-pack unit, and anticipate an intra-pericardial one! (Compressed air is what now drives the pumping diaphragms of the right and left heart chambers, independently one from the other.)

Dr. DeVries summed up the impact of the Barney Clark "experiment" neatly: "If the Wright brothers had never taken off, we wouldn't have the Concorde today."

From this GP's point of view, the conference sharpened the mind, increased perspective into the future, and enabled the primary physician to manage his patient's course through the labyrinth of multi-specialties and multi-mega-centers where modern-day medical problems have a chance for resolution never even dreamed of in the past. The cost of this category I or "P" 13½ credit hour conference in terms of tuition was not unreasonable, considering the quality of the faculty and the logistics involved in staging it. It was a real plus for our state. Mahalo and kudos to Straub!

Cardiology Update '84 presented us with many other medical gems. Some of the highlights:

Dr. **Kanu Chattergee,** from UC in San Francisco on IABP (intra aortic balloon



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counter pulsation) which has increased survival in myocardial failure from 13% to 42%, by allowing more time before surgical intervention can be organized.

Dr. **Steven Harms,** on NMR, astounded us by relating that in using the $2 million unit at Baylor, the charge to the patient is the same as for a CT-scan. The tissue definition, particularly in soft tissues, is 100 times more specific than with the CT-scan, however.

Dr. **Nelson Schiller,** of UC San Francisco, showed us how NMR depicts "blood in motion." He also suggested a change in terminology to eliminate the "N" for Nuclear in Nuclear Magnetic Resonance, because it scares patients (neither do I like the term "nuclear" family, which connotes a family The Day After!); Schiller suggests MRI instead—Magnetic Resonance Imaging.

Local MDs did very well in binding the presentations into a cohesive whole. From the Straub group were **Itagaki, Nakano, White, Fergusson,** and **Scully.** Others from the community were **Schatz** and **Mamiya.**

Finally, and probably the best known to us here in Hawaii, **Norman Schumway,** the "heart" surgeon at Stanford, brought us all up to "the state of the art" in both heart transplantations (HTs) and heart-lung transplants. There have been 313 HTs done at Stanford on 288 patients over the past 16 years. The longest post-op survival time is 14 years. At the end of the first year of this program, 22% were surviving; in the 15th year, the one-year survival rate was 88%! The newest immuno-suppressive drug, cyclosporine, can be given much of the credit for this, since it obviates the need for large doses and long administration of steroids with resultant problems with infections, both bacterial and fungal. However, it is very nephrotoxic. There are now 12 centers in the USA where HTs are being done routinely and safely.

As for heart-lung transplants (the recent Bueno case here in Hawaii is still vivid in our memories as a problem complicated by governmental fiat), Shumway showed us a slide in color of a monkey 4½ years post-op with a mean and hungry look. The first heart-lung transplant in a human at Stanford was done in March 1981; the count now is 17, with 5 deaths. The hospital charge alone is $60,000 per case. Shumway emphasized the importance of longtime, careful animal experimentation and the development and training of a team of experts as a prerequisite to successful organ transplantation. The apparent success with such procedures in the USA reflects careful adherence to these principles and is in contradistinction to the relatively poor success rate elsewhere in the world.

Most multiple-day symposia peter out in attendance by the last day. Ray Itagaki and the Straub team saw to it that Cardiology Update '84 did not follow this pattern.

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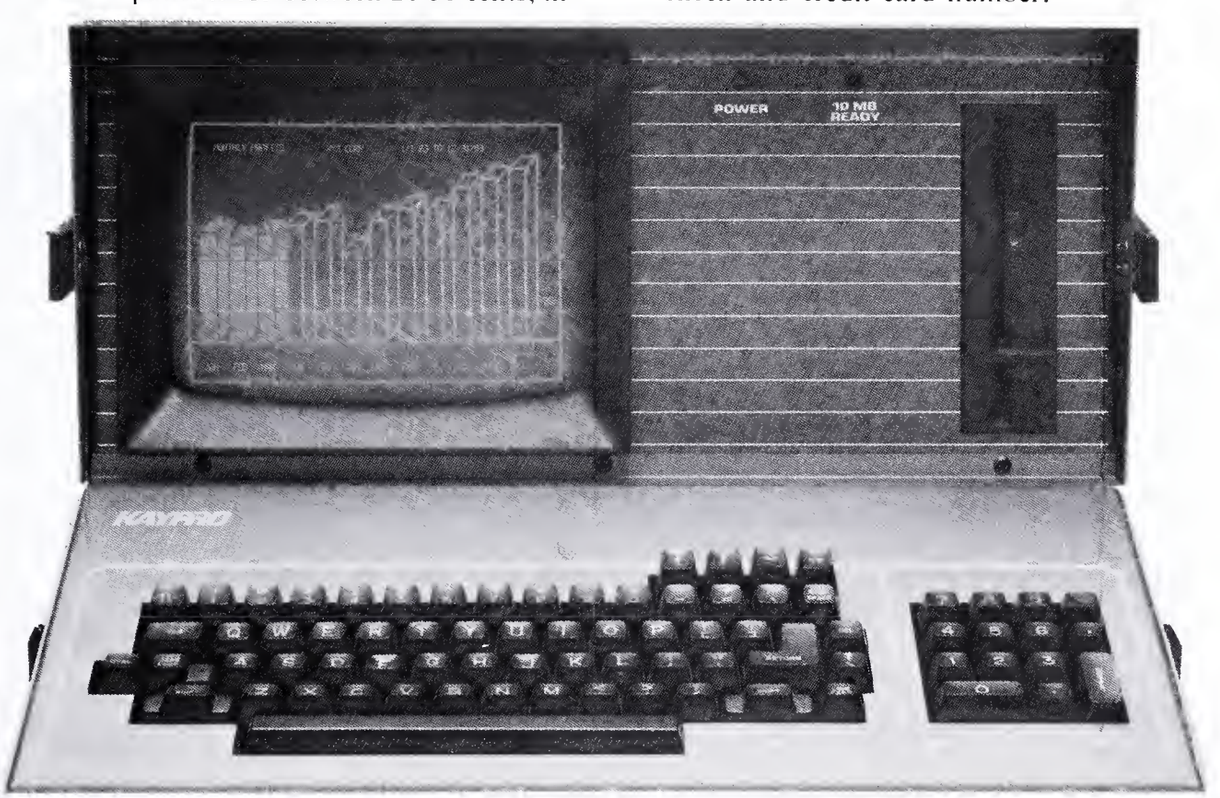
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Fatal Sardine Poisoning

A Fatal Case of Fish Poisoning in Hawaii Associated with the Marquesan Sardine

Robert J. Melton, M.D.,[1] John E. Randall, Ph.D.,[2] Nobuhiro Fusetani, Ph.D.,[3] Robert S. Weiner, M.D.,[4] Rex D. Couch, M.D.,[5] and J.K. Sims, M.D.[6]

• *In 1978, a 67-year-old resident of the Island of Kauai became ill shortly after eating locally-caught sardines. He was hospitalized for diarrhea and agitation, developed acidosis, hypoxemia, and delirium, and suffered seizures and a cardio-respiratory arrest. The interval from exposure to death was 15 hours. An autopsy revealed only evidence of acute enterocolitis and shock. Remains of the fish were identified as sardines of the species* Sardinella marquesensis. *Although laboratory testing of other fish of this species did not show consistent levels of toxicity, the authors conclude that the death was caused by clupeoid poisoning. This condition has not previously been reported in Hawaii, but is found in the South Pacific, Indian Ocean, and Caribbean. It may be caused by a distinct marine toxin of public health importance.*

Clinical History

On October 3, 1978, at 2:45 a.m., a 67-year-old Filipino man was brought to a Kauai hospital emergency room with abdominal cramps, diarrhea, and weakness.

The man had been in excellent health until the prior evening, when he ate a meal consisting of rice, a fish known as "akule" *(Selar crumenophthalmus)*, and locally caught sardines of a species with which he was not familiar. He ate the meal at about 10 p.m., and within 30 minutes he experienced cramping abdominal pain and diarrhea. This continued several hours until he had trouble walking. He also complained of chills, sweating, and numbness in arms and legs, but did not mention symptoms such as a metallic taste in his mouth or sensations of temperature reversal. By 2 a.m., he had had diarrhea at least 7 times, and so was brought to the hospital by his family. He was agitated, anxious, and was slapping his cheeks and face, and was kneading his arms and legs, saying they were "numb" and "sore." Although the emergency room physician initially thought the symptoms were due to gastroenteritis and anxiety, he admitted the man because the patient said he had eaten a "new kind of fish."

The past medical history was exceptional only for the absence of illness. He had had a brief episode of diarrhea 3 weeks previously, and had been given Donnatal by his physician. The man was in excellent physical condition, having retired from plantation work 2 years before, and being active in offshore fishing.

At the time of admission the patient had a pulse of 52-54, blood pressure of 162/70, a respiratory rate of 16 and a temperature of 97.0°F. Physical examination revealed a trim, muscular man who was agitated and non-communicative. There was no rash, itching, or purpura. The examination was unremarkable except for the relative bradycardia, agitation, and increased bowel sounds.

Over the next hour, the patient's agitation increased; he was given paregoric, but vomited, and then was given diazepam. A nasogastric tube was placed and intravenous fluids started, but as the man became more agitated he pulled the IV out. The pulse increased to 88, and at 5:30 a.m. when the physician was called he noted the man was delirious and uncontrollable, with a thready pulse of 56, and blood pressure of 90/0. Within minutes the patient's muscles tensed with tetanic contractions and carpopedal spasm; he became cyanotic and then experienced a cardiac arrest. He was intubated and resuscitated by 6:25 a.m. and given atropine, calcium gluconate, calcium chloride, sodium bicarbonate, and Ringer's lactate.

Following this, the EKG showed a sinus tachycardia with a rate of 124, supraventricular ectopic beats, and an intraventricular conduction disturbance. Thereafter, the skin had a mottled, erythematous appearance with slight peripheral cyanosis. The man became combative, tensed his arms with enough force to break arm boards, and so was given diazepam and then ketamine anesthesia. Saline enemas and gastric lavage were carried out; blood pressure remained at about 110/80 for several hours while he remained on a volume-cycled respirator.

The admission hematocrit was 40.5%, the hemoglobin 13.3 gms/dl, white count 8,600/cu mm, with no eosinophils noted on the differential count. Serum electrolytes at 6:50 a.m. (following the arrest) were: Na = 146, Cl = 104, K = 7.4 mEq/l and Ca = 10.3 mg/dl. Arterial blood gases showed a marked metabolic acidosis with pH = 7.01; PaO_2 = 111 Torr, $PaCO_2$ = 39.7 Torr and HCO3 = 9.5 mEq/l. The PaO_2 fell to 85 after an hour, and at 10:00 a.m. on a MA1 respirator with 40% oxygen, tidal volume of 800 cc and a rate of 24 L/minute, the PaO_2 fell to 61. By noon it was 31. The EKGs continued to show a sinus tachycardia with ectopic beats and conduction disturbances. Urine output was only 200 cc from the time of admission, in spite of use of diuretics. By noon the blood pressure was unobtainable, and in spite of administration of atropine, sodium bicarbonate, epinephrine, and dopamine the patient suffered another cardiac arrest and was pronounced dead at 1:08 p.m.

Chest X-ray taken at admission was unremarkable and urinalysis was normal. Values for serum glucose, bilirubin, alkaline phosphatase, and uric acid were within normal limits. Admission SGOT was 38 and LDH 140, both slightly elevated. Serum cholinesterase was 1169, well within normal limits. A single blood culture produced no growth.

Pathological Findings

A post-mortem examination was conducted by one of the authors (RC). The findings were sparse, and indicated only an enterocolitis and evidence of fluid retention and shock.

There were small bilateral pleural effusions, accompanied by pulmonary edema. Ascites, 150 ml, was also found. The gastric mucosa contained widespread punctate hemorrhagic foci, whose distribution could not be explained by the presence of a nasogastric tube; the only microscopic changes in the gastric mucosa were acute focal superficial hemorrhages accompanied by exudate of eosinophils and plasma cells. The enterocolitis consisted grossly of flattened, atrophic-appearing mucosa, with focal dark red areas which also appeared hemorrhagic. The colonic mucosa had longitudinal, linear, somewhat serpentine, hemorrhagic lesions, which appeared superficially eroded. Microsopic changes in the small intestine included superficial hemorrhage and necrosis, diffuse, with "drop-out" of the superficial glands and exudate of eosinophils, plasma cells, and a few neutrophils. In the colon, there was marked necrosis of epithelium with total loss of glands in broad foci, mucin depletion in remaining glands, dense focal hemorrhage, and prominent mucosal lymphoid nodules. Adjacent to these areas of necrosis there were regenerative foci, in which mitoses lay only in the deep portion of the epithelium. The renal tu-

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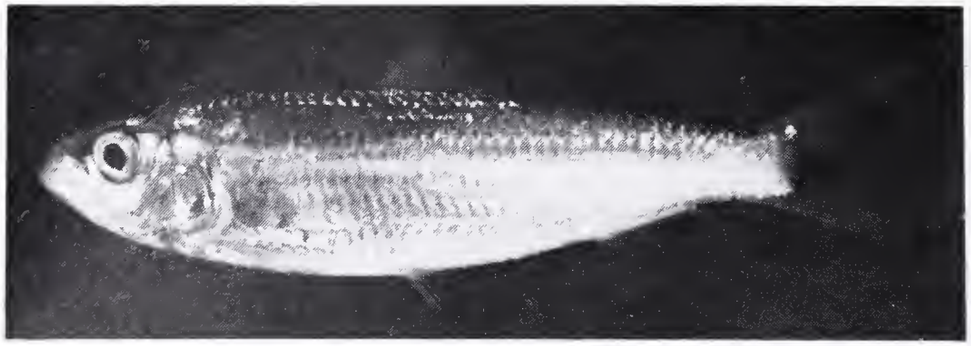


FIG. Marquesan sardine *(Sardinella marquesensis)* from Kauai, Hawaii.

bules contained numerous hyaline casts. Renal medullary hemorrhages were advanced, and rare venules contained thrombin. Microhemorrhages in glomeruli were found in both kidneys as well. There was slight, but generalized arteriosclerosis. No cardiac disease was found. The liver contained non-specific hepatocellular degeneration located at random in hepatic lobules. No abnormalities of the brain were seen. The endocrine system was free of disease. Post-mortem cultures of blood and lungs yielded no growth. Intestinal cultures grew *E. coli* and *Enterobacter* only. Toxicologic screening for barbiturates, alkaloids, depressants, and salicylates was negative. Screening for acidic and basic drugs was negative.

Epidemiological Investigation

Family members were interviewed at home the day following the death, and it was learned that all of the fish that made up the implicated meal had been caught by the victim and his family in the early morning hours of Oct. 1, 1978. About 150 pounds of the small akule had been taken offshore, and they were iced until the family returned home that morning. Some of the akule were eaten by the man and others that day; the rest were divided and given to friends or refrigerated until the following day. On the afternoon of the Oct. 2, the akule and three sardines (which were found mixed in with the catch) were steamed for about 3 hours. Some of the family ate akule at 6 p.m.; others went out for the evening and returned for the fateful meal at 10 p.m. At the meal, the akule were eaten by all and then the victim took all 3 sardines and consumed them, viscera included. Because the fish were discussed during the meal, the family members were later quite certain that only the victim ate any of the sardines.

The afternoon prior to the apparent poisoning, all of the family were at home, and they stated that the victim did not have any exposure to chemicals (herbicide, pesticides), and that none were kept around the house. There was no illness among family members, friends, or neighbors at the time of the incident, and no reported fish poisoning on the island in preceding months. There was no evidence that any other meals eaten by the family in the previous 72 hours could have been responsible for the illness described here.

Remains of the 3 sardines were recovered and one of the authors (JR) identified them as the skeletal remains from sardines of the species *Sardinella marquesensis;* all 3 were about 17 cm in length and would have weighed about 35-40 gms at the time they were caught (Fig.). Other skeletal remains recovered included only the "akule" *(Selar crumenophthalmus).*

The fish had been caught off Kaumakani, Kauai, about ¼ mile off shore, and were taken near the surface. This area is open coastline, with essentially pristine water quality, although rivers empty into small bays 3 miles to the east and 8 miles to the west. There is one small thermal discharge from the electric plant in nearby Hanapepe Bay, but otherwise water temperatures vary seasonally from 22° to 27.5°. Following heavy rains, these bays received considerable silt and nutrient loads, and such rains had occurred from Sept. 13-17, 1978, 2 weeks before this incident, at a time when seasonal water temperature is at its maximum. There was no coastal construction or dredging anywhere along the coast during the year in which this incident occurred.

Biology of Sardines in Hawaii

The Marquesan sardine was introduced into Hawaiian waters off Oahu between 1955 and 1958.[1] It was brought from French Polynesia by the Bureau of Commercial Fisheries, Hawaii Area, at the request of the Hawaii Division of Fish and Game. The objective was to establish this sardine as a tuna-bait fish to supplement the inadequate supply of local anchovies known as "nehu" *(Stolephorus purpureus)* that had been the principal bait in the past. Originally the fish was described as *Harengula vittata,* but in 1968 Berry and Whitehead reclassified it in the genus *Sardinella*, and named it a new species, *S. marquesensis.*[2] The fish established itself in Hawaiian waters, but not in great abundance. Nakamura and Wilson studied its biology in Hawaii.[3] The sardines may be found in clear water of ocean salinity or in very turbid water of low salinity, but most often in bays where the water is clear to slightly turbid and green to brownish green. They feed on zooplankton, especially copepods. Spawning occurs throughout the year. There have been no other reports of poisoning or illness associated with sardines or anchovies in Hawaii.[4]

It has recently been determined that another sardine, *Herklotsichthys quadrimaculatus,* has become established in the Hawaiian Islands. There is no record of how it was introduced to Hawaii. Although it is generically different from the Marquesan sardine, the 2 are difficult to distinguish visually (involving such things as shape of the maxilla and structure of the scales, hence more easily distinguished by microscopic study). A study of the biology of *H. quadrimaculatus*[5] on Oahu has revealed that this species appears to have replaced the Marquesan sardine at this island and is more abundant than the Marquesan sardine ever was. *H. quadrimaculatus,* however, is not yet reported from Kauai. A recent sample of 8 fish from Kauai were all *Sardinella marquesensis.*

The authors surveyed several licensed Kauai fishermen to determine the extent to which Marquesan sardines are known and whether they are commonly eaten. About 85% said they knew of the fish, 39% said they had caught it in the past, but only 4% admitted to having eaten it, and this was only after removing the viscera.

Toxicity Studies of Kauai Sardines

In the year following the incident, the authors sought and obtained many samples of sardines from local fishermen in order to screen them for toxicity. All fish were frozen until testing. The first set of fish, caught in October, 1978, was studied at the University of Hawaii by Dr. Nicholas Palumbo and Prof. A.H. Banner. Samples of viscera (weighing 1 gm) were homogenized in 2.5 ml of normal saline solution; 0.25 ml of this homogenate was forced-fed to laboratory mice of about 25 gm weight. They were observed for 60 hours. Of eight sardines studied in this manner, 7 were toxic to mice; the 7 killed 15 of 36 mice after an average of 6.5 hours. Symptoms shown by the mice included lethargy, tremors, and labored breathing; there was no lacrimation. A control group of sardines caught off the island of Oahu were then studied for comparison; only one of 23 sardines showed any toxicity at all.

A second set of fish, caught in November of 1978, was studied in the Laboratory of Marine Biochemistry of the University of Tokyo by one of the authors (NF). The ether-soluble and water-soluble fractions were prepared from the hot 70% ethanol extract of sardine viscera, and then injected intraperitoneally into separate groups of mice. Out of 13 sardines, 3 showed toxicity in the water-soluble fraction; 2 sardines retained toxicity only in the gut contents. Toxicity ranged from 3 to 7 mouse units per gram of tissue (MU/g); 1 MU equals the

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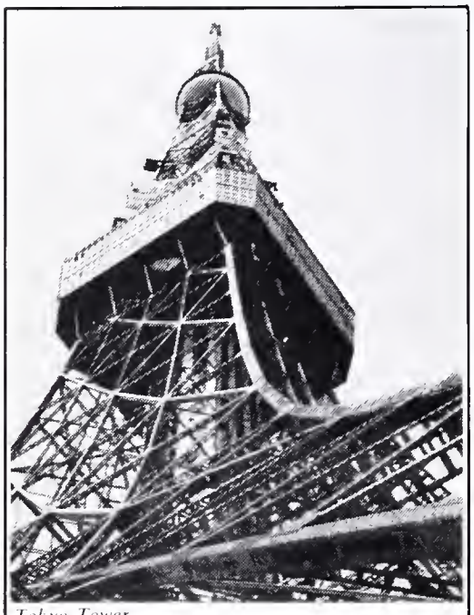
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amount of toxin required to kill a 20-gram mouse). Symptoms included irritation, paralysis of hind limbs, lethargy, and respiratory arrest. Death occurred within 3.5 to 16 hours. Successively 181 sardines, collected from October of 1978 to November of 1980, were tested by hot methanol extraction, in which the ether-soluble and water-soluble factions were examined for toxicity in mice. Only the ether-soluble fractions prepared from nine sardine viscera exhibited weak toxicity, though many specimens produced diarrhea in mice.

Discussion

The differential diagnosis for this illness includes chemical poisoning, bacterial food poisoning and fish poisoning. However, chemical poisoning was essentially excluded because the epidemiological investigation showed no evidence of any kind of exposure, there were no findings on the post-mortem toxicological screening tests, and because others exposed to the same meals experienced no illness. Bacterial food poisoning may be associated with consumption of improperly cooked or stored fish; however, in this case, the evidence is not consistent with any of the common types. The interval from exposure to first symptoms was too short for the Clostridia or Vibrio groups, the symptoms were not compatible with these syndromes, and the post-mortem findings and cultures did not support these diagnoses. Epidemiological circumstances also implicate the sardines as the most likely cause of the illness.

The common types of fish poisoning in tropic seas are ciguatera, scombroid, hallucinatory mullet and tetraodon poisoning. The last 3 clearly have no bearing on this case, both because of the species involved and because of the symptomatology. Scombroid poisoning supposedly occurs only in scombroid fishes and produces histamine-like symptoms, probably from bacterial contamination, as these fish spoil rapidly if not refrigerated. Mullet or surmullet (goatfish) poisoning is restricted to those fishes that produce hallucinations and disturbed sleep; tetraodon poisoning is caused only by puffers.

Ciguatera is also not a likely suspect in the Kauai case. This most common type of fish poisoning occurs sporadically as a result of the ingestion of a great variety of reef fishes or semipelagic fishes that prey upon reef fishes. Within a potentially toxic species, the larger individuals are most apt to be poisonous. Carnivores are more often toxic than herbivores and cause more severe symptoms, in general. The toxin is found throughout the tissues of the fishes, but in highest concentration in the viscera, particularly the liver. It is thermostable, thus unaffected by cold storage or cooking. Ciguatera is reported from many localities throughout tropical and subtropical seas, but most frequently from islands of the West Indies and the Indo-Pacific region.[6] Although rare in the Hawaiian Islands, it is the kind of fish poisoning most often reported from this archipelago.[7,8] Most poisonings in Hawaii have been relatively mild. There were no fatalities in more than 220 Hawaii cases documented between 1900 and 1962 and only 3 in 338 cases reported from 1962 and 1969 (undoubtedly many light cases were unreported).

Two of the deaths in Hawaii ascribed to ciguatera resulted from the consumption of a bouillabaise of several fishes caught off Haleiwa, Oahu in 1964.[9] The fishes in the meal included a parrotfish (*Scarus* sp.), surgeonfishes (*Acanthurus dussumieri* and either *A. xanthopterus* or *A. mata*), and unicornfish (*Naso unicornis*), all of which feed on benthic algae. Viscera of the fishes (and, probably visceral contents as well) were included in the bouillabaise. The victims were elderly Filipino men. They became ill in less than 3 hours; death ensued in 20 to 23 hours. Their symptoms and those of an acutely ill survivor were not entirely typical of ciguatera, and such severe illness from the consumption of herbivorous fishes is totally unexpected. We suspect that another toxin (or toxins) was involved.

The occurrence of ciguatera is variable both spatially and temporally. Ciguatoxic fishes may appear on a previously nontoxic reef; some years later the fishes there may again be safe to eat. Randall[10] correlated toxic reef sectors with disturbances which result in the formation of new surfaces. He hypothesized that the basic toxic organism is a benthic alga (or an organism growing in association with such an alga), which appears early in normal ecological succession on a new hard substratum in the sea. Herbivorous fishes and other grazing animals such as gastropods and echinoids are the first to acquire ciguatoxin. Carnivorous fishes preying upon these herbivores build up the toxin in their tissues to higher levels. Of the algae that might produce the toxin, Randall thought bluegreens (Cyanophyta) the most suspect. Recent studies, however, have shown that the source of the toxin appears to be the newly named dinoflagellate *Gambierdiscus toxicus* which usually grows epiphytically on benthic algae, especially bluegreens.[11,12]

The symptoms of mild to moderate cases of ciguatera appear 3-to-5 hours after ingestion of toxic fish. The usual early symptoms are abdominal pain, nausea, vomiting, diarrhea, weakness, and malaise. There may be a metallic taste (particularly in more severe cases), joint and muscular pain, and confusion of the sensations of hot and cold. The victims often complain of tingling and numbness of the mouth, which appears later in the extremities, particularly on contact with cold. Fever, headache, and rash are usually absent; sometimes there is itching. The acute symptoms generally subside within 72 hours but weakness and itching (for those affected) may continue.

The paresthesia may persist as long as 7 days, or much longer if the patient eats reef fish, even though the fish elicits no symptoms among other persons eating it. This shows that such fish possess ciguatoxin at the sub-symptomatic level. Halstead[13] has given a comprehensive discussion of more complicated and severe cases of ciguatera.

The Kauai case appears to be an example of clupeoid poisoning. This often fatal syndrome occurs as a result of eating tropical fishes of the order Clupeiformes which includes the sardines and herrings (Clupeidae) and anchovies (Engraulidae). Poisoning from eating clupeoid fishes has been known in the literature since the 18th century; the occurrence, however, is rare and sporadic. Halstead[13] listed outbreaks from only 6 localities in the 20th century but admitted his tabulation is incomplete. To his list may be added the Tonga Islands, Western Samoa and Marshall Islands[7], Madagascar[14] and Jamaica.[15] The last-mentioned outbreak involved 70 persons. Halstead has given the symptoms of clupeoid poisoning as follows:

> "The first indication of a biotoxication is the sharp metallic taste which may be present immediately upon ingestion of the fish. This is soon followed by nausea, dryness of the mouth, vomiting, malaise, abdominal pain, and diarrhea. The gastro-intestinal upset may be accompanied by a feeble pulse, tachycardia, chills, cold clammy skin, vertigo, a drop in blood pressure, cyanosis and other evidences of a vascular collapse. Within a very short period of time, or concurrently, a variety of neurological disturbances rapidly ensue such as nervousness, dilated pupils, violent headaches, numbness, tingling hypersalivation, muscular cramps, respiratory distress, progressive muscular paralysis, convulsions, coma and death. Death may occur in less than 15 minutes. Ferguson (1823) claimed that the poison was so rapid in its action that natives have died while in the very act of eating the yellow-billed sprat"[13]

There is also important evidence in the biogenesis of clupeoid poisoning. Sardines, herrings, and anchovies feed on planktonic organisms, thus the source of the toxin is not benthic as it is in ciguatera. The toxic fishes are often caught in turbid, brackish areas in contrast to the clear-water, coral-reef habitat typical of ciguatera. These clupeoid fishes are the first to acquire the toxin whereas those producing ciguatera in its most severe form are the large carnivorous species at the upper end of the food chain. The size of the fish causing clupeoid poisoning does not seem to be related to the intensity of the toxemia, in sharp contrast to the fishes which cause ciguatera. Also sig-

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nificant in this fatality is the frequent observation that victims who were the most ill or died were ones who had eaten the viscera as well as the flesh of the fish.

Banner and Helfrich[7] and Banner[16] reported individuals in both Fiji and Tonga who ate eviscerated clupeoid fishes and were unaffected, whereas there were deaths among persons consuming the entire fish. The viscera from fish that had not produced symptoms caused death when fed to dogs and pigs. Of the persons poisoned during the recent outbreak in Jamaica, 63% had eaten the entire fish.[14] Two examples were given of individuals in Jamaica who suffered no ill effects from eating sprats from which viscera were removed; the viscera, however, killed cats. The greater severity of illness may be the result of consuming the contents of the alimentary tracts of the toxic sardines. A final bit of evidence of the distinction of clupeoid poisoning is the observation of several authors that this toxemia is seasonal, occurring during the warm summer months (principally July-September in northern latitudes). By comparison, ciguatera may be encountered at any season of the year.[10]

The probable source of clupeotoxin is a planktonic dinoflagellate. The first suggestion of this was made by D'Arras in 1877, according to Halstead[6], who reported the observation of Father Montrouzier in New Caledonia that local sardines become poisonous because they fed on a "green monad" which discolored areas of the sea seasonally at the region of Balade. These monads caused conjunctivitis, coryza and erythema in persons coming into contact with them.

The seasonality of clupeoid poisoning may be related to the greater occurrence of heavy rains during summer months in tropical and subtropical localities. The WHO report of the outbreak in Jamaica on July 4-5, 1979 stated: "It is interesting to note that one of the most severe floodings reported in over a century occurred on 12 June in the involved part of the island. The previous incident of sprat poisoning in May was also preceded by flood weather in March." The Kauai case on Oct. 3 followed a period of heavy rain.

Paralytic shellfish poisoning (PSP), which results from eating mussels and other pelecypods during the warm months of the year in temperate waters of the North Pacific, has been attributed to planktonic dinoflagellates of the genus *Gonyaulax*. The poison PSP was named saxitoxin after its isolation in 1962 from the Alaska butter clam *Saxidomus giganteus*. However, it is now known that the dinoflagellates produce other toxins with identical pharmacological activity to saxitoxin.[17] These have been named neosaxitoxin and gonyautoxins. Oddly, saxitoxin has proved to be a rather minor toxin in most of the bivalves that have been tested. Saxitoxin and the related toxins have been shown to be responsible for serious illness and death in humans eating certain xanthid crabs from tropical and subtropical localities.[17, 18, 19] Yasumoto[18] noted that toxins were not detected in bivalves found in the same area off Ishigaki, Ryukyu Islands, where toxic crabs of their study were collected. They stated that it is reasonable to assume that the primary source of the toxins is a benthic organism.

It is natural to suspect that clupeotoxin might be the same as one or more of the PSP toxins, since, as mentioned, the occurrence of the latter in tropical waters has been demonstrated. However, the symptomatology of PSP is clearly different from clupeoid poisoning. There is, for example, no metallic or bitter taste; the syndrome begins with tingling sensations that change to numbness, and thence to progressively severe paralysis, but it is usually a flaccid paralysis, and very different from the neurological manifestations of tetany and seizure seen in the present case and in previous reports of clupeoid poisoning.

The organism responsible for producing clupeotoxin is not known, but it is probably a member of some other genus than *Gonyaulax*. In recent studies in Palau, Harada has found two previously undescribed toxins in *Pyrodinium bahamensis* var. *compressa*.[20] The clinical findings in the present case suggest that the toxin may be chemically more similar to ciguatoxin or maitotoxin than to the PSP toxins, but the ecological facts suggest that the organism that elaborates the toxin may be a planktonic dinoflagellate.

The clinical course of this case and the finding of the epidemiological investigation suggest that clupeoid poisoning was the cause of death. The findings of the autopsy may have been sparse, but it is of interest that they are similar to the only previously reported autopsy in a case of sardine poisoning, that reported in 1861 by Fonssagrives and cited by Halstead.[6] In that case there was "inflammation all along the digestive tract with aborizations" and "red blotches" in the pylorus and small intestine. The author also described "obstruction" of the lungs.

Our documentation of this case of clupeoid poisoning appears to represent the first for the Hawaiian Islands. That it has not been reported in earlier times would seem to be in part related to the absence of the Marquesan sardine. There are four native clupeoid fishes in Hawaiian waters, all zooplankton feeders: *Stolephorus purpureus, S. buccaneeri, Spratelloides delicatulus,* and *Etrumeus micropus.* The explanation that they apparently have not caused severe illness when eaten may lie in subtle differences in food habits or habitat between these fishes and the Marquesan sardine. One should not rule out the possibility, however, that these other clupeoids might cause this toxemia in Hawaii.

It may have been just chance that the Marquesan sardine produced the first case. Clupeoid poisoning, as stated, is rare worldwide. This rarity is due to the need for a chain of events to take place. First, as we hypothesize, there must be just the right environmental conditions in the sea to produce a bloom of the toxic planktonic plant. Then, small planktonic animals must be present to feed on the phytoplankton, and a clupeoid fish in turn to feed on them. The fish must be caught and eaten at that time, possibly with viscera intact. The people of Hawaii do not often eat local clupeoid fishes (as shown in our survey), and when they do they are apt to eviscerate them. Thus, the potential for outbreaks in Hawaii may be lower than in less developed insular regions of the world.

In reference to clupeoid poisoning, Halstead[6] wrote "It is noteworthy that to date no one has reported any experimental work on the toxicology, pharmacology, or chemistry of these violently poisonous fishes". The reason for this may be that no specimens of clupeotoxi fish have been obtained for such research. The authors appeal to physicians, public health workers and others involved in outbreaks of clupeoid poisoning to make every effort to report the outbreaks to public health authorities and to obtain and freeze fishes suspected of harboring clupeotoxin. We also believe there is ample reason to inform the public of the hazards associated with the consumption of clupeoid fishes in Hawaii.

REFERENCES

1. Murphy GI: Introduction of the Marquesan sardine *(Harengula vittata)* (Cuvier and Valenciennes) to Hawaiian waters. *Pacific Sci* 14:185-87, 1960.
2. Berry FH, Whitehead P: A new species of sardine (Sardinella, Clupeidae) from the Marquesas Islands. *Proc Biol Soc Wash* 81:209-222, 1968.
3. Nakamura EL, Wilson RC: The biology of the Marquesan sardine, *Sardinella marquesensis Pacific Sci* 24:359-376, 1970.
4. Kubota W: Ciguatera fish poisoning—A case summary from year 1900-1979. Presented at Pacific Ciguatera Workshop, National Marine Fisheries Service, Honolulu Laboratory, Honolulu, Hawaii 96812, 1981.
5. Williams RV, Clarke T: Reproduction, growth and other aspects of the biology of the gold spot herring, *Herklotsichthys quadrimaculatus,* a recent introduction to Hawaii. *Fishery Bull,* in press.
6. Halstead BW: *Poisonous and Venomous Marine Animals of the World.* US GPO, Washington DC, Volume 2, 1967, pp. 63-603.
7. Banner AH, Helfrich P: The distribution of ciguatera in the tropical Pacific, *Tech Rep Hawaii Mar Lab* No. 3:1-48, 1964.
8. Helfrich P: Fish poisoning in Hawaii. *Hawaii Med J* 22:361-372, 1963.
9. Okihiro MM, Keenan JP, Ivy AC: Ciguatera fish poisoning with cholinesterase inhibition. *Hawaii Med J* 24:354-357, 1965.
10. Randall JE: A review of ciguatera, tropical fish poisoning, with a tentative explanation of its cause. *Bull Mar Sci Gulf Carib* 8:236-267, 1958.
11. Yasumoto T, Nakajima I, Bagnis R. and Adachi R: Finding of a dinoflagellate as a likely culprit of ciguatera. *Bull Jpn Soc Sci Fish* 43(3)1021-1026, 1977.
12. Yasumoto T, Inoue A, Bagnis R, and Garcon M: Ecological survey on a dinoflagellate possibly responsible for the induction of ciguatera. *Bull Jpn Soc Sci Fish* 45(3)395-399, 1979.

References continued on page 124

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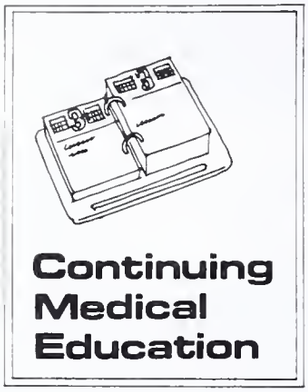
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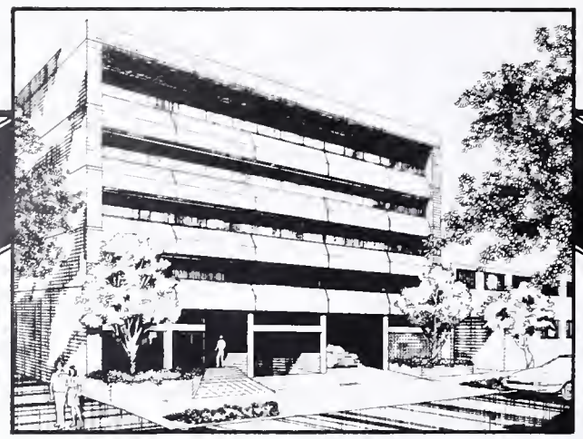
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SPECIAL EVENTS

All special events should be confirmed with the CME program sponsors, as cancellations are not necessarily reported to the HAWAII MEDICAL JOURNAL.

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April 9-13, 1984	Internal Medicine MKSAP VI Review Course Maui. Contact: American College of Physicians at (800) 523-1546. At: Westin Wailea Hotel, Maui, Hawaii.
April 9-15, 1984	California Society of Plastic Surgeons, Inc., Annual Meeting. Contact: A.H. Ellenburg, M.D., 7150 Brockton Avenue, Suite 102, Riverside, Calif. 92596. At: Hyatt Regency Maui, Hawaii.
April 14-21, 1984	Problems and Controversies in Emergency Medicine. Contact: American Institute of Postgraduate Education, OCE, UC San Diego School of Medicine, UC San Diego Office of CME at (619) 454-3212. At: Royal Lahaina Resort, Maui, Hawaii.
April 14-21, 1984	Creativity and Madness III Psychological Studies of Art and Artists. Contact: American Institute of Medical Education at (213) 842-8818. At: Sheraton Royal Waikoloa, Kohala, Hawaii.
April 14-15, 1984	Seventh Annual Seminar on Acute Care and Workshop/Flow Directed Pulmonary Artery Catherization and Hemodynamic Management. Contact: The Queen's Medical Center, P.O. Box 861, Honolulu, Hawaii 96808, (808) 538-9011. At: Queen's Medical Center, Mabel Smyth and Kam auditoriums, Honolulu, Hawaii.
April 15-20, 1984	Problems and Controversies in Emergency Medicine. Contact: University of California, San Diego School of Medicine, La Jolla, Calif. 92093. At: Maui, Hawaii.
April 16-24, 1984	Management of Traumatic Emergency. Contact: American Institute of Postgraduate Education, Edith S. Bookstein, P.O. Box 2101, Del Mar, Calif. 92014, (714) 454-3212. At: Waiohai Hotel, Poipu Beach, Kauai, Hawaii.
April 27-29, 1984	Infectious Diseases. Contact: American Academy of Pediatrics at (800) 323-0797. At: Royal Lahaina, Maui, Hawaii.
April 28-May 5, 1984	Sports Medicine Update (AAFP 15 hours credit). Contact: Professional Seminars at (201) 379-1100. At: S.S. Constitution (cruise—Oahu, Hawaii, Maui, Kauai).
April 29, 1984	Hawaii Asthma Allergy Symposium—1984, The Hawaii Asthma Camp, (808) 537-6954, 1710 Pali Highway, Honolulu, Hawaii 96813. At: Westin Ilikai Hotel, Honolulu, Hawaii.
May 5-12, 1984	Management of the Surgical Patient—For Physicians Caring for Surgical Patients; Emphasizes Practical Aspect. Contact: Stanford School of Medicine, Office of Postgraduate Medical Education at (415) 497-5594. At: Mauna Kea Beach Hotel, Kamuela, Hawaii.
May 12-19, 1984	Initial Cardiac Treatment: Office and Emergency (AAFP 15 hours credit). Contact: Professional Seminars at (201) 379-1100. At: S.S. Constitution (cruise—Oahu, Hawaii, Maui, and Kauai).
May 19-26, 1984	Seminar on Current Medicolegal Issues. Contact: International Conference, 189 Lodge Avenue, Huntington Square, New York, N.Y. 11746, (516) 549-0869. At: Hawaiian Islands (cruise—various Islands).
June 16-26, 1984	Association of Schools and Colleges of Optometry Annual Meeting. Contact: 600 Maryland Avenue, SW, Suite 410, Washington, D.C. 20024, (202) 484-9406. At: Hilton Hawaiian Village, Honolulu, Hawaii.
June 20-24, 1984	Western Thoracic Surgical Association Annual Meeting. Contact: William Maloney, 13 Elm Street, P.O. Box 1565, Manchester, Mass. 01944, (617) 927-8330. At: Hyatt Regency, Maui, Hawaii.
June 23-30, 1984	Chest Diseases: Management of Emergencies (AAFP 15 hours credit). Contact: Professional Seminars at (201) 379-1100. At: S.S. Constitution (cruise—Oahu, Hawaii, Maui, Kauai).
July 7-14, 1984	Cardiovascular Medicine and Surgery (deals with most recent developments of clinical significance). Contact: Stanford School of Medicine, Office of Postgraduate Medical Education at (415) 497-5594. At: Mauna Kea Beach Hotel, Kamuela, Hawaii.
July 21-28, 1984	How to Cope with PPOs and Developing a Simplified Approach to Financial Planning for the Physician. Contact: Perkins and Zures, Inc., at (714) 787-8522. At: S.S. Independence Cruise, Honolulu, Hawaii.
Aug: 18-23, 1984	Responsibility Issues in Mental Health. Contact: Southern California Neuropsychiatric Institute at (619) 454-2102. At: Mauna Kea Beach Hotel, Kamuela, Hawaii.
Aug: 19-25, 1984	The 11th Hawaiian Seminar on Clinical Anesthesiology. Contact: Educational Programs, Division of the California Society of Anesthesiologists at (415) 348-1407. At: Maui Surf (Kaanapali Beach), Maui, Hawaii.
Oct. 25-28, 1984	Allergy, Immunology and Infections Disease. Contact: Joe Harrison, M.D., Symposium Maui, Inc., P.O. Box 10185, Lahaina, Maui, Hawaii 96761, (808) 661-8032.


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"Update in Cardiac Catheterization and Invasive Cardiology" is the subject of a review course to be taught on Saturday and Sunday, May 5 & 6, by the American College of Cardiology and Harvard's Department of Medicine, at The Colonnade, in Boston. Fee is $365 for non-members. Write to the college at 9111 Old Georgetown Road, Bethesda, Md. 20814, for information.

Fatal Sardine Poisoning

References continued from page 120

13. Halstead BW: *Poisonous and Venomous Marine Animals of the World.* Darwin Press, Princeton, New Jersey, 1978, pp 325-402.
14. Vincent-Cuaz L: Rapport preliminaire sur les intoxications par des poissons de Tulear. Min Rept Repub Malaqache, Div Peches Marit, Minist l'Agric, Paysannat, 1964.
15. World Health Organization: Fish poisoning. *WHO Weekly Epidem Rec* 55:258-259, 1980.
16. Banner AH: Hazardous marine animals, in Tedeschi DG, Eckert WG, Tedeschi LG (eds): *Forensic Medicine—a Study in Trauma and Environmental Hazards.* WB Saunders, Philadelphia, 1977, pp 1378-1476.
17. Hashimoto Y: *Marine toxins and other bioactive marine metabolites.* Japan Scientific Press, Tokyo, 1979.
18. Yasumoto T, Oshima Y, and Konta T: Analysis of paralytic shellfish toxins of xanthed crabs in Okinawa. *Bull Jpn Soc Sci Fish* 47(7)957-959, 1981.
19. Koyama J, Noguchi T, Veda Y, and Hashimoto K: Occurrence of neosaxitoxin and other paralytic shellfish poisons in toxic crabs belonging to the family xanthidae. *Bull Jpn Soc Sci Fish* 47(7)965, 1981.
20. Harada T, Oshima Y, Kamiya H, and Yasumoto T: Confirmation of paralytic shellfish toxins in the dinoflagellate, *Pyrodinium bahamense var. compressa,* and bivalves in Palau. *Bull Jpn Soc Sci Fish,* scheduled for April 1982.

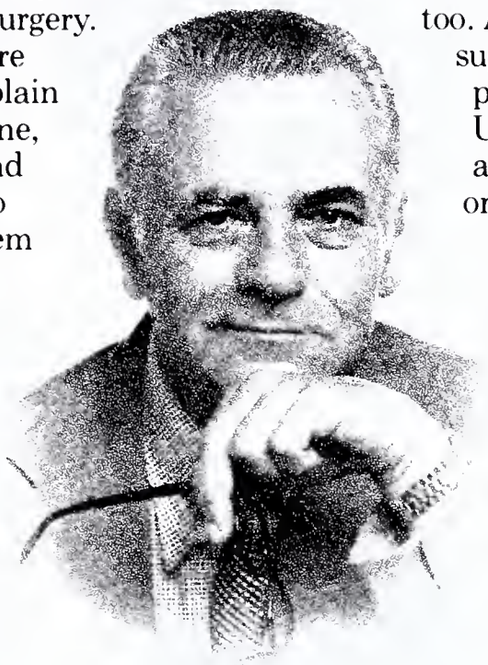
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RE: Resolution regarding the Hale Mohalu Hansen's Disease Facility, submitted by Drs. Fred Reppun and Robert Wong at the last HMA Convention in Maui, Hawaii.

This is to clarify the conditions by which the state acquired the ownership of the land in Pearl City which is known as Hale Mohalu. The then Territory of Hawaii in its application for this property, dated June 24, 1955, stated in paragraph 12: "This real property will be used by the Territory of Hawaii on a *permanent* basis for a Hansen's Disease hospital facility" (emphasis added). In paragraph 8 the application reads: "Our long-range plan, after acquiring title to this property, is to seek an appropriation from the legislature of the Territory of Hawaii to put up a *permanent* hospital plant" (emphasis added). This document was signed by Paul J. Thurston, director, Bureau of Budget, Territory of Hawaii; and also by Richard K.C. Lee, M.D., president, Board of Health, Territory of Hawaii. This application became part of the agreement between the Territory of Hawaii and the U.S. Government in a legal document titled "Quitclaim Deed," dated March 23, 1956. Page 4 of this Quitclaim Deed states that the "described property herein conveyed shall be utilized continuously for the Public Health purposes in *accordance with the proposed program and plan set forth in the application* of the said grantee, dated June 24, 1955, and for no other purposes" (emphasis added).

The state also was required to maintain the property and buildings (page 6 of the Quitclaim Deed). By their own admission, they did not do this.

As to the argument that all patients should be treated alike, including those with Hansen's Disease, just like anyone else, this ignores past history and the present condition of many of the patients. These people were forced to live, suffer, and die in isolation for the safety of the rest of us. The fact that the contagiousness of Hansen's Disease is now known to be extremely low does not mitigate against this fact of history.

Furthermore, many of these patients are deformed and incapacitated in various degrees. Their rights as citizens and human beings were lost or, at least, restricted. They were treated as prisoners when their only crime was that they were sick. And now we tell them they don't deserve special consideration.

Many suffered and died so that the state could gain possession of that beautiful piece of land we know as Hale Mohalu. They are not asking for all of it. They merely want a small part of it to be continued to be used as a care home setting in a community that knows and accepts them. This is the least we can do for them. It also happens to be more cost-efficient than sending everyone to a skilled nursing home hospital setting such as Leahi whether they need it or not.

We hope that the Council and/or the House of Delegates in the future will reconsider its decision.

Frederick A. Dodge, M.D., ABFP

P.S. The 1979 Hawaii State Legislature passed a bill and appropriated sufficient monies to build a residential care facility on the Hale Mohalu land. This was vetoed by Governor Ariyoshi.

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Hawaii Academy of Family Physicians' Newsletter

Don and Marlies Farrell

MEMBERSHIP NEWS: The academy welcomes two new active members. **Jennifer Frank** is relocating in Hawaii from Michigan; **James Hui Teck Tan** has begun practice in Waimea, Kauai.

Re-elected to active membership after having completed at least 150 hours of AAFP-approved CME are **Paul T. Esaki** and **Harold Lawson.** Congratulations!

More than 57% of the academy's active membership attended the recent scientific seminar, "Neurology for the Family Physician." The program also featured a lecture on "Marketing the FP's Practice," certainly a "hot" topic in Hawaii as elsewhere in the '80s.

Gary McMahan, executive vice president of the Family Health Foundation in Kansas City, also addressed the participants at the annual meeting. The foundation annually supports family practice research activities with generous grants. It also has established the H.L. Huffington Memorial Library in Kansas City which boasts an extensive collection of medical literature, especially in the field of family practice, not always available in other medical libraries. Since the library's toll-free number is not available to Hawaii members, collect calls will be accepted.

The foundation is supported by donations from members as well as corporations, and your financial support is solicited.

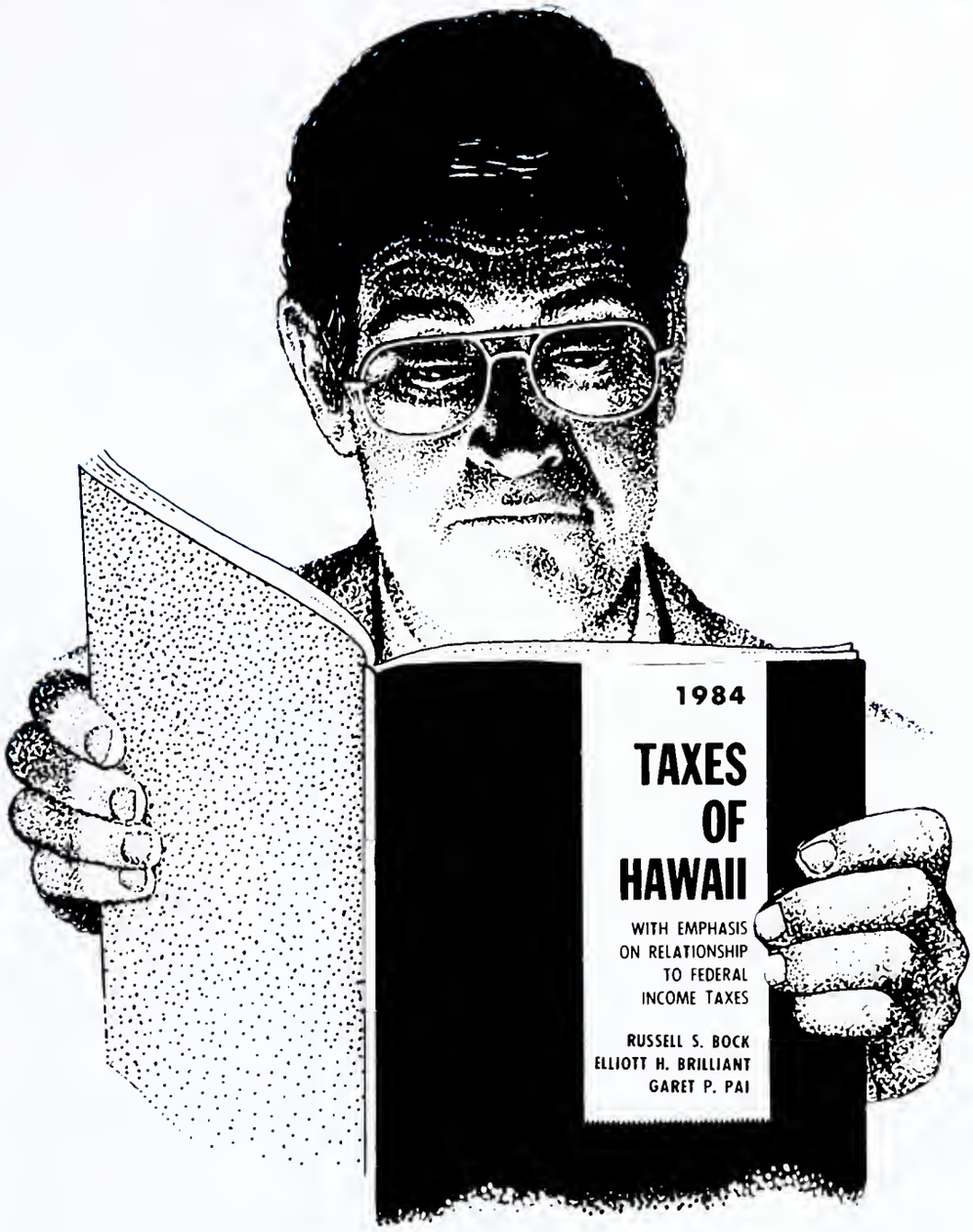
The annual banquet was highlighted by awards presented to 5 members who have been practicing physicians for 50 years or more. Mrs. **Robert E. Benson** (Ruth) accepted the posthumous award for her husband who died last November. Of the other honorees, Drs. **Hing B. Luke** and **Seichi Miyasaki** are still in part-time practice, while Drs. **Edward Underwood** and **Garton Wall** recently retired. Their histories, so ably compiled by **Fred Reppun,** are the history of Hawaii during the last century.

Dr. **Harmon Holverson,** the AAFP president, installed the newly elected officers, delegate, alternate, and councilors. **John E. Aoki** is the new HAFP president, succeeding **Lily Ning.** He will serve along with **Mona Bomgaars,** president-elect; **Robert Hollison,** secretary; and **Donald Farrell,** treasurer. **Thomas Cahill** was re-elected as delegate to AAFP; **Nathan Wong** as alternate delegate. The three new councilmembers are **Howman Lam, Ken Steinweg,** and **Nathan Wong.**

John Aoki, in his address following his installation, stressed the need for unity among the family physicians. Among his priorities are functioning departments of family practice in our hospitals.

The chapter's next CME activity will be the first dinner meeting of 1984 to be held May 5. Details shortly.

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Hawaii Medical Journal

CONTENTS

Medical History in the Islands 133
The U.H. School of Medicine
Charles S. Judd Jr., M.D.

Editorial—Consultations: Part 2 137
J.I.F. Reppun, M.D.

House Dust Mites at Altitude in Hawaii 138
D.G. Massey, M.D.; R.T. Furumizo, Ph.D.;
and G.G. Fournier-Massey, M.D., Ph.D.

Hormone Treatment Clinic in Waikiki for Transsexuals 142
Maxwell A. Cooper, M.D.

HMA Auxiliary—Blood Bank day in Hilo 149

Aloha, Irene 150-151

Mediastinal Hemorrhage 152
Sharon S. Lawler, M.D., and Richard Reeve, M.D.

Thyrotoxicosis Associated with Thrombocytopenia 156
Robert T.S. Jim, M.D.

News and Notes 159
Henry N. Yokoyama, M.D., and J.I.F. Reppun, M.D.

Over the Editor's Desk 160
Harry L. Arnold Jr., M.D.

Continuing Medical Education 164

HMA Council Meeting Highlights 165

Poisonous Marine Plants and Animals—Therapeutic Guidelines 166
Joel K. Sims, M.D.

Memo from AMA—Hospital Medical Staff Section Meeting 167

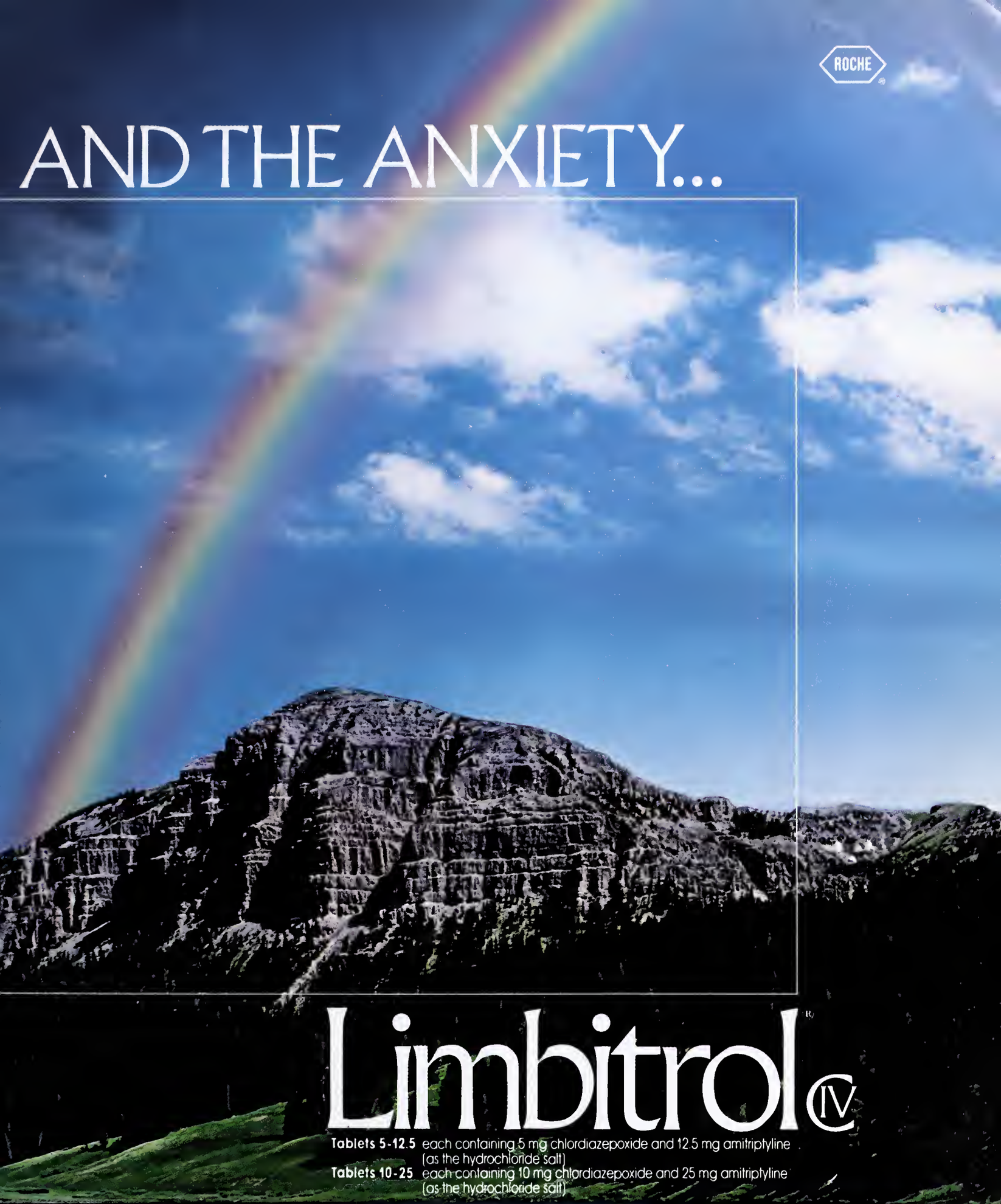
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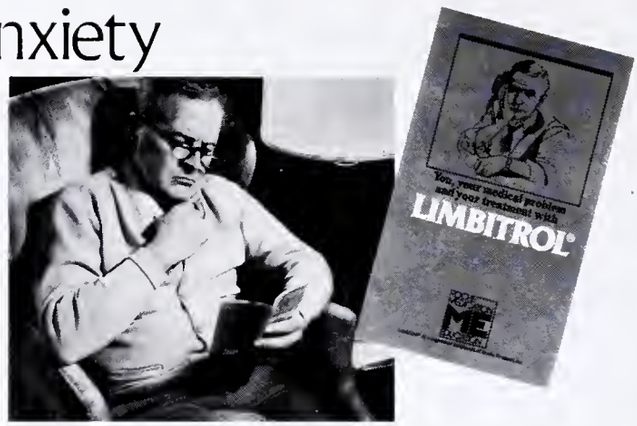
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*Feighner JP: *Psychopharmacology* 61:217-225, Mar 22, 1979.



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Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients. (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage. Withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline, symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs:

Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.

Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.

Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.

Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.

Endocrine: Testicular swelling and gynecomastia in the male; breast enlargement, galactorrhea and minor menstrual irregularities in the female; elevation and lowering of blood sugar levels; and syndrome of inappropriate ADH (antidiuretic hormone) secretion.

Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly.

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Medical History in the Islands

John A. Burns
School of Medicine
University of Hawaii

Charles S. Judd Jr., M.D.

The John A. Burns School of Medicine began as a 2-year school of basic medical sciences, accepting its first class of 25 students in 1967. Windsor C. Cutting, M.D., formerly of Stanford, was dean from the school's inception until his death in 1972. Terence A. Rogers, Ph.D., became the next and present dean.

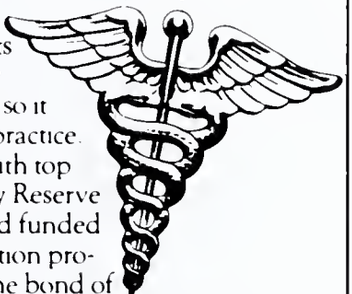
Graduates of the 2-year school transferred to the Mainland for clinical training until 1973, when the school offered a full 4-year, M.D. degree-granting program. By then, entering classes had grown to 66 students. Expansion to 4 years was largely due to the leadership of the late John A. Burns, governor of Hawaii, in whose honor the school was named shortly before his death in 1975. That same year, the first class of 62 physicians was graduated.

A basic purpose of the school is to overcome the classic problem of maldistribution of physicians, both by specialty and geographically. Accordingly, the school has worked to train its students to a high level of competence as primary care physicians, encouraging them toward practice in underserved areas of Hawaii and the Pacific. Also, through special programs, the school seeks to broaden opportunities for medical careers for men and women from disadvantaged segments of island society.

The school also conducts health manpower training programs in the Pacific islands of Micronesia and in Okinawa. In addition to teaching, the school conducts research in fields for which Hawaii is particularly suited: diving physiology, tropical medicine, cancer, heredity, asthma, and cross-cultural psychiatry.

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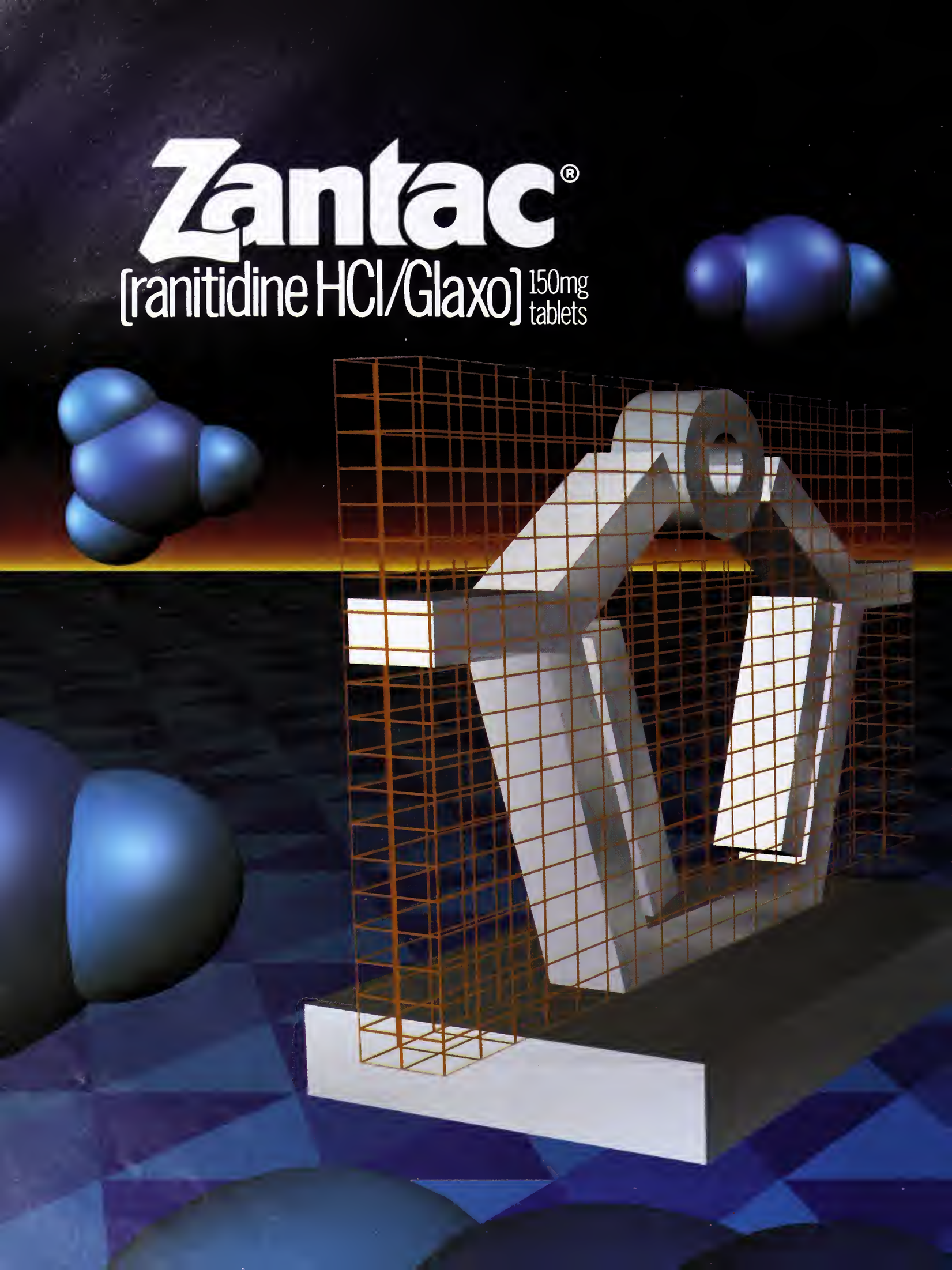


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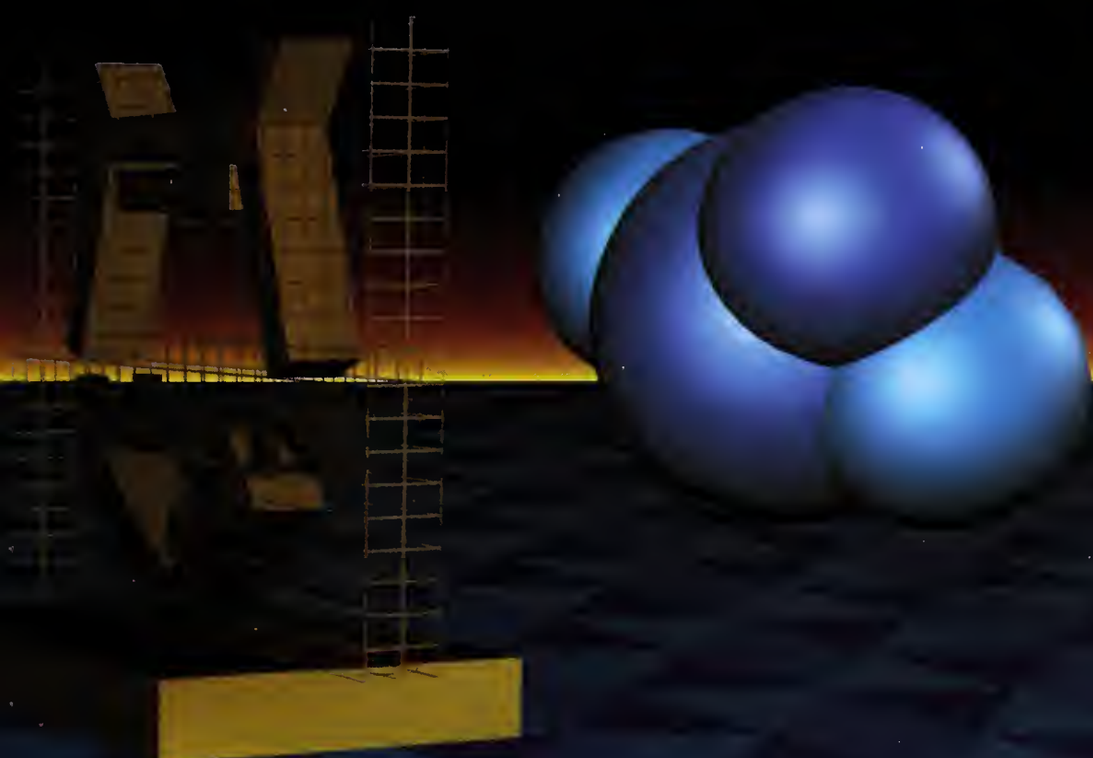
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- ☐ For adverse reactions see complete prescribing information.

*It is not known exactly how much inhibition of gastric acid secretion is required to heal ulcers.

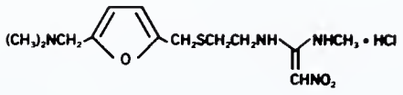
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The empirical formula is $C_{13}H_{22}N_4O_3S \cdot HCl$, representing a molecular weight of 350.87.

Ranitidine hydrochloride is a white to pale yellow granular substance which is soluble in water. It has a slightly bitter taste and sulphur-like odor.

Each tablet for oral administration contains 168 mg of ranitidine hydrochloride, equivalent to 150 mg ranitidine.

CLINICAL PHARMACOLOGY: ZANTAC* (rantidine hydrochloride) is a competitive, reversible inhibitor of the action of histamine at the histamine H_2 receptors, including receptors on the gastric cells.

ZANTAC does not lower serum Ca^{++} in hypercalcemic states.

ZANTAC is not an anticholinergic agent.

Antisecretory Activity:

1. Effects on acid secretion:

ZANTAC inhibits both daytime and nocturnal basal gastric acid secretion as well as gastric acid secretion stimulated by food, histamine and pentagastrin, as shown in the table below.

Effect of Oral ZANTAC* on Gastric Acid Secretion

	Time After Dose, hrs.	% Inhibition of Gastric Acid Output by Dose, mg			
		75-80	100	150	200
Basal	Up to 4		99	95	
Nocturnal	Up to 13	95	96	92	
Betazole	Up to 3		97	99	
Pentagastrin	Up to 5	58	72	72	80
Meal	Up to 3		73	79	95

It appears that basal, nocturnal and betazole stimulated secretion are most sensitive to inhibition by ZANTAC, responding almost completely to doses of 100 mg or less, while pentagastrin and food stimulated secretion are more difficult to suppress.

2. Effects on other gastrointestinal secretions:

Pepsin: Oral ZANTAC 150 mg did not affect pepsin secretion. Total pepsin output was reduced in proportion to the decrease in volume of gastric juice.

Intrinsic factor: Oral ZANTAC 150 mg had no significant effect on pentagastrin-stimulated intrinsic factor secretion.

Serum gastrin: ZANTAC has little or no effect on fasting or postprandial serum gastrin.

3. Other pharmacological actions:

a. Hepatic blood flow reduced 20%. Significance unknown.

b. Gastric bacterial flora—increase in nitrate-reducing organisms, significance not known.

c. Prolactin—no effect (IV bolus) or less increase than cimetidine.

d. Other pituitary hormones—no effect on serum gonadotropins, TSH, GH. Possible impairment of vasopressin release.

e. No change in cortisol or aldosterone.

f. No effect on count, motility or morphology of sperm, androgen level, estradiol, testosterone.

g. No effect on penile erection, sexual arousal or ejaculation.

4. Pharmacokinetics:

ZANTAC is 50% absorbed after oral administration compared to an IV injection with mean peak levels of 440-545 ng/ml occurring at 2-3 hours after a 150 mg dose. The elimination half-life is 2.5-3 hours.

Absorption of ZANTAC is not significantly impaired by concomitant administration of food or antacids. Propantheline slightly delays and increases peak blood levels of ZANTAC, probably by delaying gastric emptying and transit time.

Serum concentrations necessary to inhibit 50% of stimulated gastric acid secretion are estimated to be 36-94 ng/ml. Following a single oral dose of 150 mg, serum concentrations of ZANTAC are in this range up to 12 hours. However, blood levels bear no consistent relationship to dose or degree of acid inhibition.

The principal route of excretion is the urine, with approximately 30% of the orally administered dose collected in the urine as unchanged drug in 24 hours. Renal clearance is about 410 ml/min, indicating active tubular excretion.

In man, the N-oxide is the principal metabolite in the urine; however this amounts to less than 4% of the dose. Other metabolites are the S-oxide (1%) and the desmethyl ranitidine (1%). The remainder of the administered dose is found in the stool.

The volume of distribution is about 1.4 L/kg. Serum protein binding averages 15%.

Clinical Trials:

Duodenal Ulcer

In a multicenter, double-blind controlled U.S. study of endoscopically diagnosed duodenal ulcers, earlier healing was seen in the ZANTAC®-treated patients as shown below:

	ZANTAC* +		Placebo +	
	Number Entered	Healed/ Evaluable	Number Entered	Healed/ Evaluable
Outpatients				
Week 2	149	54/147 (37%)*	146	29/137 (21%)
Week 4		109/148 (74%)**		68/137 (50%)

*p = 0.0014
**p = 0.0001
+ All patients were permitted prn antacids for relief of pain.

In these studies, ZANTAC-treated patients reported a reduction in both daytime and nocturnal pain, and they also consumed less antacid than the placebo-treated patients.

	Median number of daily doses of antacid	
	Ulcer Healed	Ulcer Not Healed
ZANTAC*	0.06	0.71
Placebo	0.71	1.43

During the clinical trials, some not healed at 4 weeks were rerandomized to either placebo or ranitidine, with the results after 4 weeks shown below.

Not healed on:	Retreated with:	Healed:
Placebo	Placebo	10/21
Placebo	Ranitidine	15/24
Ranitidine	Ranitidine	5/8
Ranitidine	Placebo	8/19

It can be seen that there are trends weakly favoring ranitidine but none of the differences are statistically significant.

Studies have been limited to short-term treatment of acute duodenal ulcer. Patients whose ulcers healed during therapy had recurrences of ulcers at the usual rates. There have been no systematic studies to evaluate whether continued treatment with ZANTAC (ranitidine hydrochloride) alters recurrence rates.

Pathological Hypersecretory Conditions

(such as Zollinger-Ellison Syndrome)

ZANTAC inhibits gastric acid secretion and reduces occurrence of diarrhea, anorexia, and pain in patients with pathological hypersecretion associated with Zollinger-Ellison Syndrome, systemic mastocytosis and other pathological hypersecretory conditions (e.g. post-operative, "short gut" syndrome, idiopathic). Use of ZANTAC was followed by healing of ulcers in 8 of 19 (42%) patients who were intractable to previous therapy.

INDICATIONS AND USAGE:

ZANTAC® (ranitidine hydrochloride) is indicated in:

1. Short-term treatment of active duodenal ulcer. Most patients heal within 4 weeks and the usefulness of further treatment has not been demonstrated. Studies available to date have not assessed the safety of ranitidine in uncomplicated duodenal ulcer for periods of more than 8 weeks.

2. The treatment of pathological hypersecretory conditions (e.g., Zollinger-Ellison Syndrome and systemic mastocytosis).

In active duodenal ulcer and hypersecretory states, concomitant antacids should be given as needed for relief of pain.

CONTRAINDICATIONS: There are no known contraindications to the use of ZANTAC® (ranitidine hydrochloride).

PRECAUTIONS:

General

1. Symptomatic response to ZANTAC* therapy does not preclude the presence of gastric malignancy.

2. Since ZANTAC is excreted primarily by the kidney, dosage should be adjusted in patients with impaired renal function (see Dosage and Administration). Caution should be observed in patients with hepatic dysfunction; ZANTAC is metabolized in the liver and, at present, the effects of hepatic disease on the metabolism of ZANTAC is unknown.

Laboratory Tests

False positive tests for urine protein with Multistix* may occur during ZANTAC therapy and therefore testing with sulphosalicylic acid is recommended.

Drug Interaction

Potentiation of warfarin-type anticoagulants has not been observed with concomitant ZANTAC administration. Likewise no clinically significant drug interactions have been observed between ZANTAC and theophylline or ZANTAC and diazepam. Drug interactions of this type are not expected since ranitidine does not significantly interact with the cytochrome P450 linked drug metabolizing enzyme system.

Carcinogenesis, mutagenesis and impairment of fertility

There was no indication of tumorigenic or carcinogenic effects in lifespan studies in mice and rats at doses up to 2000 mg/kg/day.

Ranitidine was not mutagenic in standard bacterial tests *(Salmonella, E. Coli)* for mutagenicity at concentrations up to the maximum recommended for these assays.

In a dominant lethal assay a single oral dose of 1000 mg/kg to male rats was without effect on the outcome of 2 matings per week for the next 9 weeks.

Usage in Pregnancy

Pregnancy Category B. Reproduction studies have been performed in rats and rabits at doses up to 160 times the human dose and have revealed no evidence of impaired fertility or harm to the fetus due to ZANTAC* (ranitidine hydrochloride). There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers

ZANTAC (ranitidine hydrochloride) is secreted in human milk. Caution should be exercised when ZANTAC is administered to a nursing mother.

Pediatric Use

Safety and effectiveness in children have not been established.

Use in Elderly Patients

Ulcer healing rates in elderly patients (65-82 years) were no different from those in younger age groups. The incidence rates for adverse events and laboratory abnormalities were also not different from those seen in other age groups.

ADVERSE REACTIONS

Headache has been found to be more frequent in ZANTAC®-treated patients (3%) than placebo-treated patients (2%). The following symptoms have been reported in ZANTAC-treated patients with a frequency of 1% or less: malaise, dizziness, constipation, nausea, abdominal pain and rash.

Decreases in white blood cell and platelet count have occurred in a few patients. These did not lead to cessation of treatment and were clinically insignificant. There have been no reported cases of agranulocytosis or aplastic anemia. Some small increases in serum creatinine have been noted in patients receiving ZANTAC (ranitidine hydrochloride).

Some increases (up to 5 times the upper limit of normal in one case) in serum transaminases and gamma-glutamyl transpeptidase have been reported. Rare cases of hepatitis have been reported.

In normal volunteers, SGPT values were increased to at least twice the pre-treatment levels in 6 of 12 subjects receiving 100 mg q.i.d. IV for 7 days, and in 4 of 24 subjects receiving 50 mg q.i.d. IV for 5 days. This dose-related effect of the IV formulation suggests that ZANTAC is potentially hepatotoxic. In placebo controlled studies of the oral formulation involving 2437 patients (1358 receiving ranitidine and 1079 patients receiving placebo), with most patients treated 4-8 weeks, there was no difference in incidence of SGOT-SGPT elevations between the 2 groups.

No clinically significant interference with endocrine or gonadal function have been reported.

OVERDOSAGE: There is no experience to date with deliberate overdosage. The usual measures to remove unabsorbed material from the gastrointestinal tract, clinical monitoring and supportive therapy should be employed.

Studies in animals receiving doses of ZANTAC® in excess of 225 mg/kg/d have shown muscular tremors, vomiting, and rapid respiration. Single oral doses of 1000 mg/kg in mice and rats were not lethal. Intravenous LD_{50} values in rat and mouse were 83 mg/kg and 77 mg/kg, respectively.

DOSAGE AND ADMINISTRATION:

Duodenal Ulcer

The current recommended adult oral dosage of ZANTAC® for duodenal ulcer is 150 mg twice daily, the only dose shown to speed healing of duodenal ulcer in U.S. clinical trials. Smaller doses have been shown to be equally effective in inhibiting gastric acid secretion in U.S. studies, and several foreign trials have shown that 100 mg b.i.d. is as effective as the 150 mg dose.

Antacids given concomitantly and as needed for relief of pain do not interfere with the absorption of ZANTAC.

Since 37% of patients can be expected to show complete healing at the end of two weeks, endoscopy at that time may spare many patients an additional period of treatment.

Pathological Hypersecretory Conditions

(such as Zollinger-Ellison Syndrome)

Recommended adult oral dosage: 150 mg twice a day. In some patients it may be necessary to administer ZANTAC 150 mg doses more frequently. Doses should be adjusted to individual patient needs, and should continue as long as clinically indicated. Doses up to 6 g/day have been employed in patients with severe disease.

Dosage adjustment for patients with impaired renal function.

On the basis of experience with a group of subjects with severely impaired renal function treated with ZANTAC, the recommended dose in patients with a creatinine clearance less than 50 ml/min is 150 mg every 24 hours. Should the patient's condition require, the frequency of dosing may be increased to every 12 hours or even further with caution. Hemodialysis reduces the level of circulating ranitidine. Ideally, the dosage schedule should be adjusted so that the timing of a scheduled dose coincides with the end of hemodialysis.

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Issued Sept. 1983

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Glaxo Inc., Research Triangle Park, NC 27709



Editorial

Consultations: Part 2

How to Refer—Responsibilities of the Referring Physician

As we implied in the previous editorial of this series, there is no quicker way for a consultant to lose the good graces of his referring physicians than by proceeding with continuing care of the referred patient as if that patient were his own from then on—and even forgetting completely about the GP back in the sticks! It is particularly important that the consultant neither order extensive or expensive tests and procedures, nor refer the patient to others *without* the primary physician's consent. The primary physician is the PMD—the patient's Personal Medical Doctor—and this fact must never be forgotten or ignored by specialist consultants.

The reverse side of this coin, however, has large significance for the PMD; should he ignore his obligations, he had better not squawk if the consultant then takes over completely!

The referring physician needs to make it completely clear to the consultant what he expects:

1—A review of the record, an examination of the patient, a stated opinion as to diagnosis and recommendations for management: (a) *only* that and no more? (b) a report back to the PMD *only*? or (c) the consultant to inform the patient directly also?

2—To take over the further care of that patient: (a) if within that consultant's field of expertise, (b) for that illness or problem only? or (c) from then on for continuing care of whatever other problems might arise?

3—If further tests are advised, does the referring physician wish the consultant to proceed, or does the PMD wish to manage that himself?

4—If consultation with one or more additional specialists is advised, who is to seek such—PMD or consultant No. 1?

5—If surgery is advised, does the PMD wish to assist, or participate in the management of co-existing medical problems? Or ask other specialists to enter the case? Does the PMD wish to do the follow-up himself?

6—Lastly (and rarely attended to) the PMD and the consultants need to come to a precise agreement as to charges imposed upon the patient by each physician on the case—mainly so that the patient will not be needlessly overcharged.

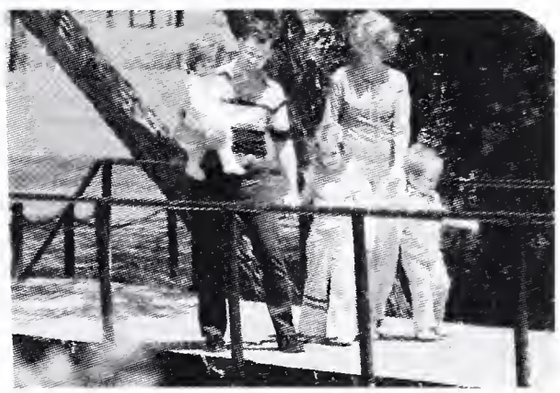
We still remember, vividly and with respect, Dr. John Lowrey, Straub neurosurgeon now retired, who, after seeing in consultation a child with a skull fracture, turned to us and with utmost courtesy said: "Okay, now that we know what's what and no surgery indicated, do you care to follow the case yourself, or would you like me to do so? In any case, let's not drop the ball between us."

In order to implement the smooth operation of the procedures proposed above, hospitals and doctors all need to develop and standardize forms for use in offices as well as in hospitals, and then to use them. Incidentally, the proper and courteous way is for the initiating physician to make personal contact with and request of the other—not through a third party such as nurse or receptionist.

J.I.F. Reppun, M.D.

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House Dust Mites at Altitude in Hawaii

D.G. Massey, M.D.,* R.T. Furumizo, Ph.D.,**
G.G. Fournier-Massey, M.D., Ph.D.*** Honolulu

• *House dust was collected at 180, 2,800, and 4,150 meters on the "Big Island" of Hawaii. The number of house dust mites decreased markedly with altitude.* Dermatophagoides pteronyssinus *was the dominant species but was less frequent than on Oahu.* D.farinae *was not found.* Euroglyphus maynei *was identified for the first time in Hawaii. These findings support the rationale of a treatment center at altitude for severe asthmatics sensitive to house dust.*

Asthma is more common in Hawaii than the Mainland USA[1,2,3] and mortality is higher.[4,5] One of the major triggers may be house dust mites as evidenced by their ubiquitous distribution[6] and by the results of a questionnaire on 280 residents.[3]

Management of mite asthma in Hawaii is particularly difficult because *Dermatophagoides pteronyssinus (D.pt)* is by far the dominant mite and its antigen must be imported for diagnosis or desensitization. *D.farinae* antigen can be substituted, but 30% of antigens are not shared with *D.pt.*[7] Also, the mites are difficult to eliminate because the open plan of Hawaii's houses encourages dust accumulation, and the relative humidity and temperature are ideal for them.

A different approach to the management of mite asthma might be related to altitude. Altitude decreases the concentration and alters the species of mites found and its benefit in severe asthma has been clearly demonstrated.[8] The influence of altitude on mites has not been shown in Hawaii.

This paper reports the quantity and identification of Acari (i.e., mites) from sea level to mountain peak in Hawaii.

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Methods

On May 22-23, 1982, one of the authors (DGM) collected house dust from 3 sites on the Island of Hawaii, the largest and most southeast Island of the Hawaiian chain. A new soft toothbrush was used to collect each sample for 3 minutes in an unused plastic sack, which was immediately sealed with a metal twist. Bed mattresses were brushed around the seams, "buttons," and on 3 square feet of their surface. Bed frames were brushed at their junction with the mattress. Carpet was brushed under the bed or, if necessary, beside it. Machinery was brushed over an equivalent of 3 square feet.

At 183 meters (600 ft.), dust samples were collected from a boys' boarding school 2 days after the semester ended. The school, surrounded by dense shrubs and trees, is of wooden construction and about 25 years old. House dust was collected from a 3-bed room and a 2-bed room on ground floor and from 2 suites on the first floor. The rooms had been cleaned professionally once a week throughout the semester.

At 2,806 meters (9,200 ft.), dust was collected from the carpet under the bed in 3 rooms of a 20-room, ground-level dormitory. The dormitory was also of wooden construction, 15 years old but without surrounding trees or shrubs. The bedrooms were cleaned professionally once a week.

At 4,148 meters (13,600 ft.), house dust samples were collected from the Canada-France-Hawaii Observatory: From the carpet around the examining couch in a first-aid room which is often used as a bed by staff on 24-hour duty; from an office carpet on the same floor; and from the telescope observation area.

The 11 samples were carried to the laboratory on the second day. The sample, bag, twist and label were weighed in triplicate (Mettler pan balance, H15; Q.C. Services, 655 Potter Avenue, Half Moon Bay, California 94019) and the dust was washed from the bag with 50% ethanol. After drying, the empty bags with labels and twist were weighed to calculate the net weight of each dust sample. Separation and mounting of mites was by the technique of Furumizo.[9] All identification of mites was performed by one of the authors (RTF).

Results

The results are shown in the table.

The number of mites per gm of dust decreased progressively with altitude.

Six families of mites were found of which Pyroglyphidae and Acaridiae were the most common. The dominant species was *D.pt* at all altitudes tested; however, its frequency at sea level did not reach the 92% found on Oahu by Nadchatram et al.[6] *D.farinae* was not found at any level. ***Euroglyphus maynei*** was identified.

Discussion

Analysis of house dust from the 2,806 and 4,148 meters sites is the highest altitude reported in the literature and the first from high altitude in Hawaii.

As expected, the number of mites per gram of dust decreased with height above sea level.

D.pt was the dominant species, although its frequency did not reach the 92% found on the Island of Oahu.[6] The contrast with Mainland USA, where *D. farinae* is predominant, is again confirmed. *D.pt.*, a potent trigger of asthma, decreased markedly with altitude. ***D.farinae,*** also an important trigger, was not found at all. All altitude studies have reported the latter with the exception of that from South Africa.[10]

The finding of *E.maynei* was a first for Hawaii. It has been reported in all altitude studies and was the most common mite at 1,202 meters in Spain.[11] It is interesting that we found these in a carpet

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Table. Quantity of dust, number of mites, and species found at altitude

	600 ft.							9,200 ft.			13,600 ft.
SAMPLE NO.	5	8	1	2	3	9	4	6	7	11	10
SOURCE	Bed	Frame	Furn.	Carpet	Bed	Bed	Bed	Carpet	Carpet	Carpet	Car Mac*
DUST											
Total gm	0.39	0.25	0.05	0.09	0.36	0.35	1.01	0.28	0.56	1.40	0.58
Total ml	3.0	1.4	< 2.5	< 2.5	2.9	2.6	3.6	4.0	5.3	5.5	< 2.5
Volume used	1.5	1.4	all	all	1.45	1.95	1.8	2.0	1.99	1.72	all
ACARINA											
1. Pyroglyphidae											
D.pt	73	78	9	78	118	85	234	6	4	15	3
E. maynei	0	0	0	3	0	0	0	0	0	0	0
2. Acaridiae											
A. siro	1	2	0	25	3	1	18	0	1	1	0
G. domesticus	45	40	2	52	60	79	146	0	0	1	2
T. putrescens	7	0	0	0	0	7	0	0	0	7	0
Chortoglyph	4	44	0	16	6	18	29	2	1	0	0
3. Cheyletidae											
C. eruditus	4	1	1	8	18	3	20	0	0	0	0
4. Mesostigmata	1	6	0	4	7	7	14	0	0	1	0
5. Oribatei	0	0	0	0	0	2	0	0	0	0	0
6. Other mites											
TETRANYCHID	1	0	0	5	2	0	4	0	0	1	0
TOTAL MITES	136	171	12	191	214	202	465	8	6	26	5
MITES/GM DUST	697	698	235	2099	1176	780	917	57	28	59	9
% D.PT	54	46	75	41	55	42	50	75	67	58	60

* Carpet, machinery

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with few *D.pt.*

Many more families and species were identified by us than reported from altitude elsewhere.

These findings imply that an asthma center at high altitude would be beneficial to house-dust-sensitive asthmatics. They also support the hypothesis of Ordman that *D.pt* does better in high humidity and *D.farinae* in low. Thus, coastal areas, regardless of altitude, are dominated by *D.pt* unless the temperature is low. However, it does not explain why *D. farinae* was completely absent in our investigation. Perhaps the frequent humidity of 100% at the observatory is in part responsible.

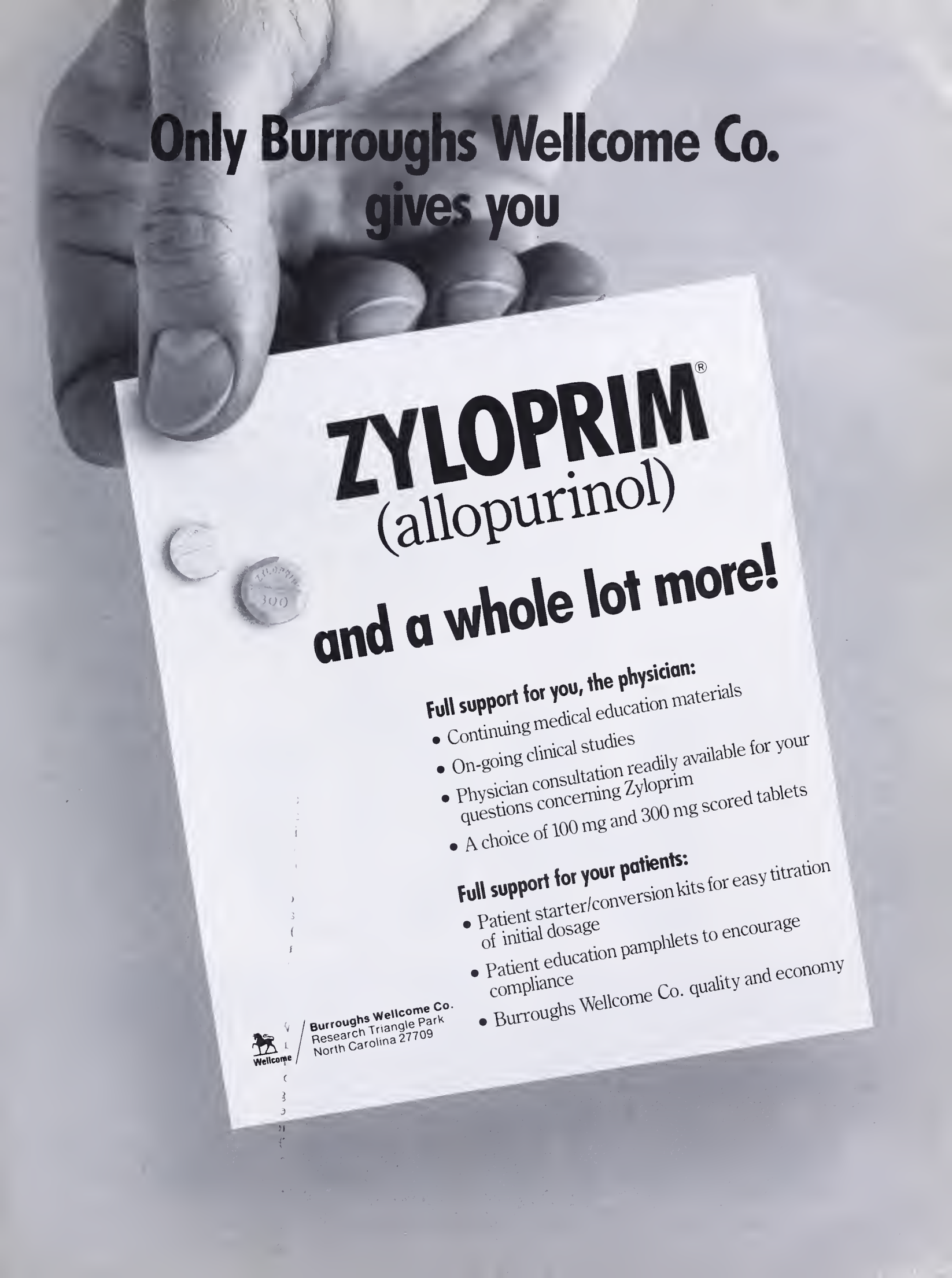
There are limitations to the study. The small number of samples examined preclude firm conclusions, but are adequate for a pilot study such as this. Also, the toothbrush technique is difficult to standardize particularly when the technician has become hypoxic on attaining such heights suddenly. In addition, a boarding school, a dormitory, and an observatory may not be typical habitations in which one should assess mite populations, a fact supported by the increasing amounts of dust collected at high altitude (housekeeping may have varied). Finally, one cannot be sure how many of the mites found actually lived at high altitude and how many were carried from lower levels.

REFERENCES

1. Meyers WA: Incidence of allergic diseases in a pediatric practice in Honolulu, Hawaii. *Ann. Allergy* 19:1161, 1961.
2. Weiner B: Prevalence of asthma on Oahu. Chron. Dis. Newsletter, Hawaii State Department of Health 6:3, December 1968.
3. Fournier-Massey G, Massey DG, McLaughlin DG, Price S, Gordon BL: Profiles of asthma in Hawaii. (In preparation.)
4. Myers WA, Bruyere M, Bruyere PT: Childhood bronchial asthma in Hawaii. *Hawaii Med. J.* 29:30-39, 1969.
5. Massey DG, Fournier-Massey GG: Morbidity and mortality of asthma in Hawaii. (In preparation.)
6. Nadchatram M, Fournier-Massey GG, Gordon BL, Massey DG: Housedust mites in Hawaii. *Ann. Allergy* 46:197-200, 1981.
7. Dailey F, Stier R, Featherstone L: Incomplete cross reactivity between the mites Dermatophagoides farinae and D.pteronyssinus. *J. Allerg. Clin. Immunol.* 69 (Part 2): 127, 1982.
8. Vervloet D et al.: Objective immunological and clinical data observed during an altitude cure at Briancon in asthmatic children allergic to house dust and Dermatophagoides. *Rev. Fr. Mal. Respir.* 7:17-19, 1979.
9. Furumizo RT: Collection and isolation of mites from housedust samples. *California Vector Views* 22(3):19-27, 1975.
10. Ordman D: The incidence of "Climate Asthma" in South Africa: its relation to the distribution of mites. *S. Afr. Med. J.* 44:739-743, 1971.
11. Gomez MS, Portus M, Gallego J: Factors influencing the house dust mite population IV. Altitude. *Allergol. Immunopath. (Madr)* 9:123-130, 1981.

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Hormone Treatment Clinic for Transsexuals

Maxwell A. Cooper, M.D.,* Honolulu

• *A total of 16 male-to-female transsexual patients of a Waikiki hormone therapy clinic were interviewed and examined. Data about the Waikiki transsexual population, their hormone therapy, and the results of the interviews and examinations are presented.*

Since 1975, a free-standing medical clinic in Waikiki has offered hormone therapy to transsexuals. Of an estimated 200 transsexuals on Oahu, approximately 30 are seen regularly in this clinic. In an effort to upgrade the services, to improve the rapport between clinic physicians and these patients, and to provide the material for this report, the following prospective study was undertaken.

Methods

All transsexual patients receiving hormone therapy at the clinic were asked to submit to a semi-structured interview, including a medical history, and a problem-specific physical examination. Participation in the study was mandatory if the patients wished to continue to receive hormone therapy at the clinic. Patients were required to schedule 2 separate sessions. One session was structured to elicit information about their transsexual background and specific personal and family history relative to increased risks of disease from their hormone therapy. Usually at a second visit, a limited problem-specific physical examination, a counseling session about estrogen use and risks, and a discussion (if desired by the patient) about surgical procedures were completed. Follow-up care was advised. Routine laboratory work was done, only as indicated by the history and physical examination. A nominal fee of $10 was charged for the history and physical. Detailed records of hormone therapy received at Waikiki Medical Services were available on each patient for as long as 8 years prior.

With the exception of one physical examination, all interviews and physical examinations were conducted by the author.

Results

A total of 16 patients completed the study from March 1982 through February 1983. Patient compliance and enthusiasm were gratifying and even surprising, considering the lifestyle of many of them. The majority live in or on the fringe of the so-called Waikiki jungle, and are usually involved in prostitution and "exotic" entertainment. Many reported mostly intermittent employment in more conventional jobs, such as waitress, hairdresser, cook, dry-cleaner, and library assistant. Many had plans for and a few were in actual attendance at vocational schools. All except one worked as putative "females."

None of the regular hormone clinic patients refused to participate, although some of the less regular attendees have not completed the study. No patient objected to the $10 fee.

All patients were male-to-female transsexuals, i.e., the sex registered on their birth certificate is "male," yet, their personal sexual identity is female. No female-to-male transsexual patients are presently seen at the clinic.

The term transsexual excludes, as did this study, the ambiguous genitalia and other syndromes associated with identifiable organic pathophysiology. It excludes the other psychogenic gender dysphoria syndromes which deviate from the heterosexual norm, such as transvestism or homosexuality. There is some uncertainty among the patients about strict sexual distinction, as evidenced by the general use among the patients of the generic terms, "queen" and "mahu," to describe themselves. The uncertainty is usually semantic only, however. The patient's sexual identity and preference are generally clear.

The term, transsexual, is primarily a medical one, denoting the individual's gender identity as opposed to the patient's biologic sex. It does not require that sexual reassignment surgery, e.g., penectomy, orchiectomy, and construction of a neovagina, be completed. There was some ambivalence or confusion in terms and probably in absolute sexual identity among some patients about this point. When asked which sex they now considered themselves, some would waver before volunteering "female" if they still retained their male external genitalia. In fact, only one of the 16 has had "reassignment surgery."

With one exception, all the patients were strongly, even excessively, feminine in their general appearance and demeanor, and used women's first names (frequently with one or more aliases). It was usual to refer to them as "girls" and to use the personal pronoun "she." They respond positively to such reference and would have taken offense at any other. Such usage will be followed throughout this paper.

Demographic Data

The mean age of the 16 patients was 26 years, ranging from 19 to 34. The majority were born and raised in Hawaii. Reported national origins and racial groups were varied and included Hawaiian, Samoan, Filipino, Okinawan, Chinese, Tahitian, German, Irish, Spanish, Mexican, Puerto-Rican, Black, Caucasian, and American Indian. From 2 to 4 disparate ethnic groups per individual were reported by 12. Hawaiian background was most common (8). Considering the ethnic composition of Oahu, the incidence of Japanese (2) was significantly low.

Questions about Transsexualism

When asked, "When did you first feel you were really a girl?" most related either inklings or a sense of confusion in childhood. When pressed for a concrete figure, range of age from 5 to 24 was given as the time of onset of their transsexualism, with a mean age of 10 years.

The mean age of onset of regular "cross-dressing" was more discrete, age 15, and closely preceded regular use of hormones, mean age 18.

One patient's detailed history provides a general pattern: feeling of confusion as

*Associate Professor of Surgery, Plastic and Reconstructive Surgery, John A. Burns School of Medicine, University of Hawaii.

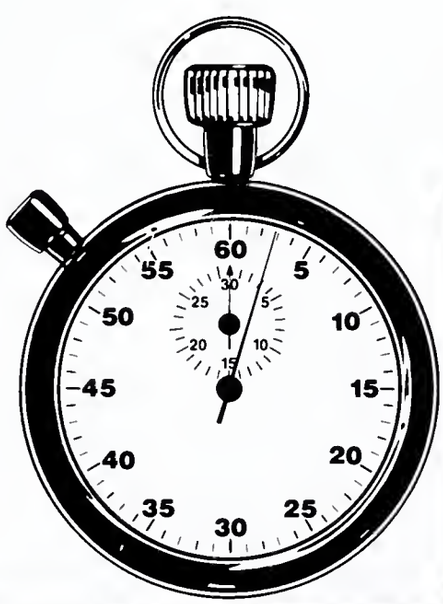
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ON TIME

to sexual identity during late childhood and early teen-age years, including fears of possible homosexuality; advised by an older male-to-female transsexual who was initially discouraging, enumerating the disadvantages of transsexual life; becoming more comfortable in a female identity, experimenting in makeup, cross-dressing, and occasional estrogen use. At age 17, transsexualism was revealed to parents and soon thereafter "she" left home, began to use estrogens full time, and was assimilated into the Waikiki jungle.

A psychiatric history was elicited in 11 of 16. Many were or had been receiving welfare support and were therefore required to see a psychiatrist. Four had psychiatric evaluations prerequisite to planned genital surgery. Five admitted to suicide attempts, invariably related to difficulties with a male lover. None considered that any of their psychiatric care was directed toward reversal of their transsexualism. They did not consider that desirable or practical. They reported that their psychiatrists would likewise discount that possibility when it was raised by parents.

A drug-abuse history was not elicited. Many of the older patients alluded to such use earlier and made reference to avoidance of drug habits now. An occasional patient would present in the clinic with signs of intoxication.

Of the 16 total, 14 admitted to engaging in prostitution. The regularity of such activity varied from a past history to full time. Clients were both homosexual and heterosexual males. The most common service reported was fellatio but anal intercourse was also performed. In general, the clients were apprised of the patient's transsexual nature, a precaution not highly satisfying to the transsexual patient, but necessary to avoid beatings upon discovery. They preferred to conceal their male genitalia and did not accept a male role.

In general, the patients preferred and found personal relationships with heterosexual males, relatively long term, with a man who "treats me like a lady." One particularly introspective patient noted, however, that "There must be something wrong with any man who's interested in me."

Family and Social History

One patient gave a history of another transsexual sibling.

Patients were specifically queried about cardiovascular and breast cancer risks in their family background. Ten gave a positive family history for cardiovascular disease in first degree relatives, primarily hypertension (9).

The majority of patients reported an understanding and acceptance by parents and siblings, usually after an initial difficulty. Most patients were able to visit their parents' homes without difficulty. Exceptions were usually a father still hostile to the patient. There was support for the observation that a warm supportive mother figure and an abusive, absent, or distant father might promote the transsexual syndrome. Some patients reported male siblings and peers taking advantage of or abusing their female tendencies during childhood.

One patient said that her mother expressed relief that the life of prostitution in Waikiki was neither as dangerous or sordid as mother had imagined before the "daughter" gave her a tour of Waikiki and introduced mother to her circle of friends.

Past Medical History

The patients were specifically asked about personal medical history relevant to their transsexualism and their risks associated with high dose hormone regimens. Smokers numbered 12. A past history of venereal disease was given by 15, all gonorrhea, frequently oral. Of those 15, 3 had received treatment for syphilis. All evidenced an understanding of local community resources for treatment. No acute venereal disease was identified.

Two patients had a history of hemorrhoidal disease and one other had a quiescent fistula-in-ano.

One patient was being followed for resolving hepatitis, probably type A.

There was no personal history of breast masses, nor any family history of breast cancer.

One patient gave a history of heart murmur as a child. One patient reported previously elevated blood pressure but was normotensive on serial examinations. One patient reported superficial leg phlebitis. There was no other history of cardiovascular or thromboembolic disease.

Estrogen Use

All of the patients have received hormone therapy, both intramuscular depot and oral preparations. They have taken regular exogenous hormones by history for 2.5-17 years, mean 7.5 years, 121 total patient years. Except for one new arrival from the Mainland, all have been followed at the clinic 2-7 years, mean 4.8 years. Some patients received injectional therapy as often as weekly, more commonly monthly. A standard intramuscular dose includes 1.0 cc Delalutin (Squibb 250 mg hydroxyprogestcrone caproate in castor oil), 1.0 cc Delestrogen (40 mg estradiol valerate in castor oil), and 0.5 cc vitamin B-12 (500 mg cyanocobalamin). In the parlance of the transsexual community, this is a "double." A "single" is 0.5 cc of each hormone. The B-12 preparation makes a bright red globule in the otherwise clear syringe full of hormones in oil. The patients insist on the B-12 portion of the injection and report a physical and psychologic lift which they attribute to B-12 as well as to the hormones.

The patients' financial situations, variable on a day-to-day basis, dictate the dose and frequency of injections rather than do their physiologic changes. They are quite attuned to changes in their secondary sexual characteristics, notably breast size, but also body fat and hair distribution, and report accurately variations in those characteristics relative to hormone use. They supplement intramuscular depot hormones with a variety of oral preparations including Premarin (2.5 mg), Estinyl (0.5 mg), and Enovid, usually one tablet daily.

One 0.5 mg tablet of Estinyl (ethinyl estradiol) is apparently enough to suppress testosterone production and result in testicular atrophy,[1] but changes in secondary sexual characteristics such as breast and hip development are related to larger doses and thus these patients are encouraged to use larger and more frequent dose regimens.

The estrogen equivalent of a "double" injection bi-monthly and 0.5 mg Estinyl daily is approximately 15 times the dosage regimen advised for replacement therapy for the castrate female.

Surgical History

Electrolysis, primarily facial, but also about the escutcheon had been performed on 6 of the 16. Two of these patients estimated their total expenses for electrolysis at $2,000-$3,000. The majority of patients are of Oriental and Hawaiian backgrounds and have limited facial and body hair. The exogenous estrogens suppress beard growth and promote a female body hair distribution pattern.

Three patients had had silicone injections to augment facial contours. One of these required surgical removal of objectionable silicone masses from the lower eyelid.

Three patients had had augmentation mammoplasty with silicone implants. None had silicone injections to the breasts. Frequency of revision surgery (2 of the 3) and their expressed dissatisfaction with visible scars, unnatural hardness and shape are evidence of a perfectionist attitude toward aesthetic surgery and reflects perhaps a need to avoid discovery.

Inframammary scars in the Asian and Hawaiian population tend to hyperpigment and are objectionable. Periareolar or axillary scars are preferred. Subpectoral placement of implants (deep to the pectoralis muscles) may better camouflage undesirable implant firmness. A female breast appearance, A-cup in volume, develops with the exogenous estrogen therapy alone, but most such patients express a desire for larger breasts. They are occasionally quite flagrant about displaying their breast size.

Only one of the patients has had "gender reassignment" genital surgery. At 4 months postoperative, "she" is pleased with the result. There were no complications, the aesthetic result was satisfactory,

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and "she" has achieved climax during vaginal intercourse. Ejaculation through "her" neourethra was a surprise to "her."

Some patients express an ambivalence toward genital surgery. The oldest transsexual in the study, age 34, expressed a negative attitude toward the surgery, citing increased sexual promiscuity and drug abuse among associates who have had the surgery. The majority of patients express a desire to have the sex change operation, and cite financial inability to achieve the $6,000-$8,000 advance payment required.

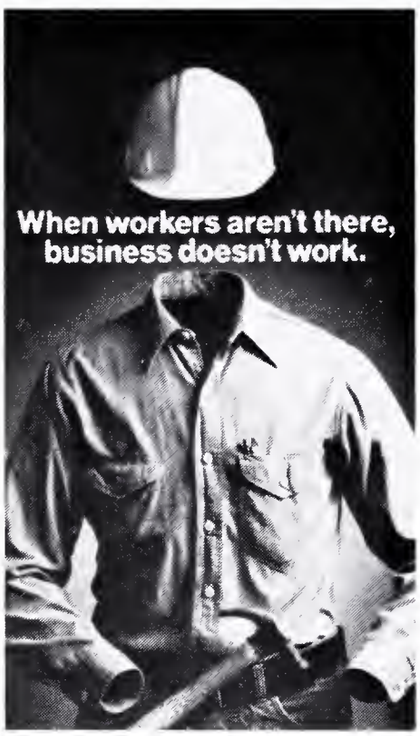
One patient gave a false history of prior genital surgery and readily explained away the discrepancy shortly before her physical examination session. Such glib misinformation and ready reversal is not uncommon in this group.

Physical Findings

Blood pressure, pulse, facial and oral examinations, heart and lung auscultation, breast, abdominal, perineal, and lower extremity examinations were completed for each patient.

The patients were generally convincing-appearing females, often projecting a streetwise attitude, and sometimes were super-feminine, especially when three or more met in the waiting room. They will sometimes bait the receptionist or the physician with vamp queen behavior.

All were normotensive.



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Those without breast implants had A-cup breasts and the modest sized areola characteristic of virginal type breasts in the normal female. Normal breast tissue was palpable and no breast masses were discovered.

One patient had an asymptomatic Grade II/VI midsystolic murmur, thought on subsequent examination by a cardiology consultant to be insignificant. No other cardiovascular abnormalities were identified.

Except for the single patient recovering from hepatitis, with the firm liver edge and borderline hepatomegaly resolving over several examinations, no other patients had abdominal pathology.

The perineal examination was an embarrassment to most of the patients. Most were acutely uncomfortable at exposing their male external genitalia. One refused a perineal examination at the first visit and only assented at a second visit when it was affirmed that continuation in the hormone clinic required a complete physical examination.

Phallic size varied over the range normal for males. All patients had testes. The penis is worn tucked posteriorly between the legs, often held there by a G-string panty. This habitus and the estrogen therapy seem to promote retractile testes. The resultant dressed external appearance in patients on regular hormone therapy resembles the female. One patient works as a topless-bottomless dancer without genital reconstruction and without discovery. The testes were readily deliverable into the scrotum and ranged from normal size and consistency to atrophic. Some minimal maceration of penile skin was occasionally apparent, presumably from the habit of carrying the penis tucked up between the scrotal halves and into the perineum. Incidential coronal adhesions and pearly penile papules were identified in one patient each. No active venereal disease was encountered.

Two patients had significant anal tags indicative of prior external hemorrhoids. One patient had a fistula-in-ano. This was considered a low incidence of ano-rectal disease and perhaps reflects the preference of most patients to avoid rectal intercourse in their prostitution, unless the financial rewards warrant the risk, reserving it for their personal lovers.

The single patient with perineal reassignment surgery had a very convincing perineum, except for scars within the scrotal skin used to construct the labia majora and for the absence of a clitoris. The penile shaft skin was preserved and inverted to form a neovagina with preservation of the glans penis to simulate a cervix.

Counseling

Breast self-examination was taught during the examinations.

Following the history and physical examinations, pertinent findings were discussed with each patient.

The thromboembolic risks for patients on exogenous estrogens and the presenting symptoms were discussed. Patients were advised to discontinue estrogens before major elective surgery or other anticipated situations with inereased thromboembolic risks.

Cardiovascular risk factors were reviewed. Smokers were advised to stop. Those with family history of hypertension were asked to have blood pressure checks every 6 months during clinic visits for hormone injections.

The small risk of exsanguinating hemorrhage from benign liver hemangiomas noted in patients on oral contraceptives was described, and patients were instructed to remind any physician examining them for acute abdomen of this possibility.

All patients were advised to minimize the frequency and dose of their intramuscular injections, certainly no more than bimonthly, and to utilize oral medications over injections.

Patients were advised to avoid silicone injection therapy, especially to the breasts where silicone granulomas simulate malignant breast masses.

Conclusion

Some degree of unreliability of the patients in keeping appointments and supplying accurate information on direct questioning was predictable. In general, patient compliance and acceptance of the study was quite favorable. Some improvement in acceptance of the patients by the clinic staff was likewise noted. A number of new patients have requested admission into the program.

No impractical demands were placed on the patients, and the study was kept as inexpensive and simple as possible. For this reason, no routine laboratory work was required. No attempt was made to dissuade patients from their transsexualism or their hormone therapy.

No untoward effects of high dose estrogen were discovered, despite 121 total years of patient exposure. Longer individual follow-up periods are needed for this relatively young population. Estrogen therapy, despite its attendant risks, seems essential to the pursuit of happiness and mental health in these patients.

Many of the patients look upon the genital reassignment surgery as the last step up and out of prostitution and their chronic fear of discovery. For the more mature, this is perhaps a realistic attitude. An undiscovered female societal role including more legitimate employment are usually associated goals. Assimilation of the transsexual patient into more socially acceptable roles than exotic dancer or prostitute might be encouraged.

One patient subsequently returned to the clinic and requested a premarital examination so that "she" might marry "her" lover of longstanding.

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Auxiliary members Susan Irvine and Jean Takase, with Blood Bank of Hawaii Hilo donors.

Honolulu and Hawaii County Auxiliary members are volunteering to help the Blood Bank of Hawaii as part of the HMA Auxiliary community health projects, reports **JoAnn Lundborg,** president. **Susan Irvine,** president of Hawaii County Auxiliary, and **Jean Takase,** Blood Bank chairman, are pictured with donors at a Blood Bank day in Hilo. Members assist with locations, logistics, and other details. The outstanding success of the Hilo blood drives is due, primarily, to the efforts of **Jean Takase,** who emphasizes that, "We are happy to sponsor projects that reach out to our community and foster health care." **Paula Rath,** handling communications relations for the Blood Bank, appreciates the Auxiliary's efforts and urges all those interested to continue their support.

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Ella Edwards is membership chairman of the HMA Auxiliary and can be contacted at 139 Makaweli Street, Honolulu 96825.

Meetings, Past & Present

Honolulu County Auxiliary Program Chairman **Bonnie DeJournett** reported on the April panel discussion on "Teen Problems and Pregnancies" with David Shearer, family counselor, and Jane Hale, from Kapiolani-Children's Medical Center. An informative program will be held May 16 on "The Changes in Medicine," with Dick Stenson, Dr. Robert Flair, and others discussing DRG, PPO, IPA, HMO, and other alphabet soup.

In a look at the light side: **Kathy Lipp** and **Patty Lindberg** have arranged an art lecture at the Academy of Arts on Mayan art and a historic house walking tour. Call **Bonnie DeJournett,** 373-1891, or Kathy or Patty for further information.

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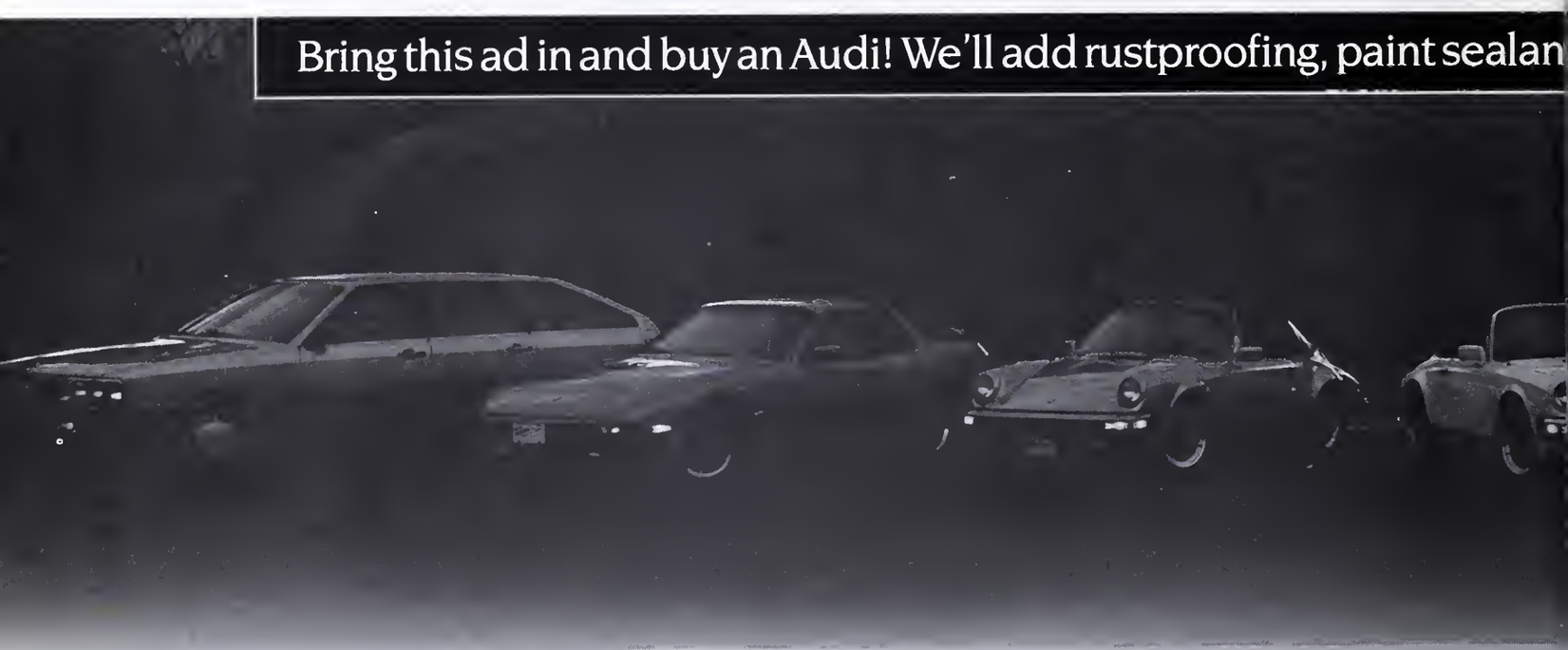
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Mediastinal Hemorrhage—

Diagnostic and Therapeutic Problems

Sharon S. Lawler, M.D., and Richard Reeve, M.D., Honolulu

• *Mediastinal hemorrhage has been reported associated with anticoagulation, uremia, tumor, external trauma, and subclavian vein catherization. Previous reports generally have described a widened mediastinum. We describe a case of mediastinal hemorrhage presenting as chest pain of possible cardiac origin in a patient with early development of esophageal obstruction which led to CT scan and esophageal biopsies, both interpreted as malignancy.*

Case Report: A 66-year-old Caucasian man with history of chronic atrial fibrillation, on coumadin because of a transient ischemic attack, presented with a viral illness of 2 weeks duration with cough, diarrhea, and malaise. On the day of admission, he noted a dull ache in his throat, radiating to his precordium. The pain lasted 6 hours and had resolved spontaneously by the time he was seen in the emergency room. After admission, the patient developed epigastric discomfort, with a burning sensation increasing with deep breathing and cough. At the time he was not nauseated and had no vomiting.

Atrial fibrillation had been present for 10 years, and this man had a history of hiatal hernia and transient ischemic attack with transient right hemiparesis occurring 3 years prior to admission. He also had previous angina.

On initial physical examination, his temperature was 99° F orally, with an irregular pulse of 84, respirations 24 and unlabored, blood pressure 140/90 without orthostatic changes. He was in no acute distress but complaining of upper abdominal and lower back pain. The remainder of the physical examination was negative. Initial laboratory studies showed a white count of 6,900; differential 74 segs, 1 band, 12 lymphs, 10 monos, and 4 eosinophils. Hb was 13.8 gm/dl, Hct 42%. Platelets were adequate. Protime 27.4 seconds, control 12.2, CPK 73, amylase 32, electrolytes normal, BUN 12, creatinine 1.1. The patient was admitted to the coronary care unit to exclude myocardial infarct. Serial cardiac enzymes and EKGs showed no evidence of myocardial damage. Chest X-ray was normal (Fig. 1.). Next morning, patient had difficulty swallowing. A barium swallow (Fig. 2) showed narrowing in the esophagus in the upper chest with anterior compression. CT scan of the thorax (Fig. 3) showed a large soft tissue mass behind the heart and superiorly along the right mediastinum. The mass extended behind the tracheal bifurcation along the right side of the superior mediastinum. There were abnormal densities in the high right paratracheal region above the azygos vein

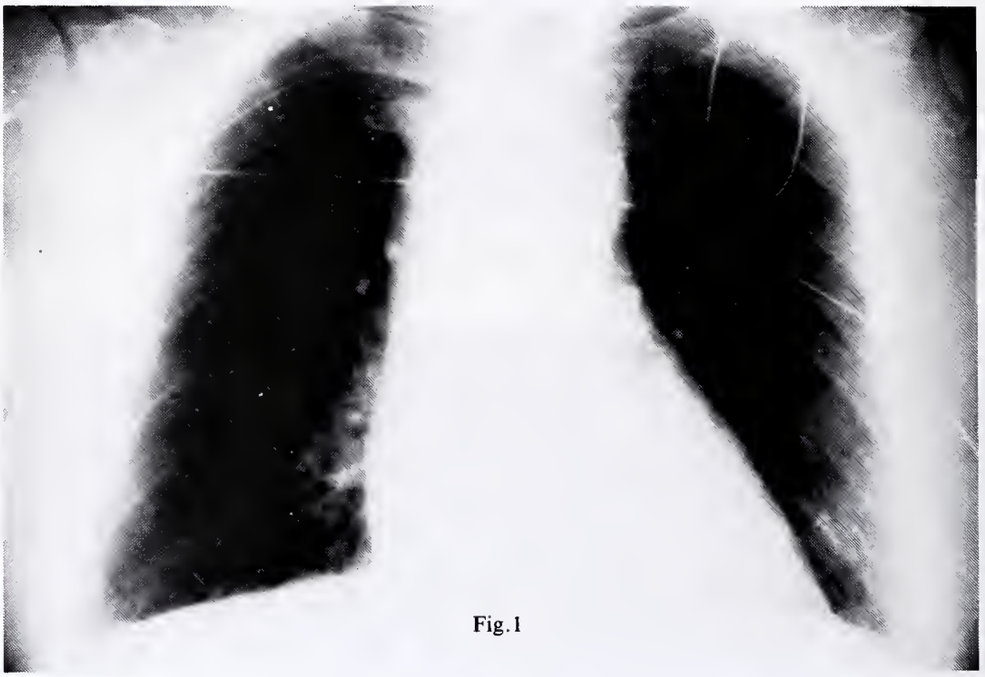


Fig. 1



Fig. 2

compatible with metastatic disease. The mass had a central low density thought to represent central necrosis. The esophagus was pushed to the left.

Because of possible aortic dissection, aortography was done and was normal. Abdominal series was nonspecific with no evidence of free air.

A repeat complete blood count on the second hospital day showed a drop in hematocrit to 35.7%. Bleeding into the mass was considered a possible cause. The patient's prothrombin time was corrected with vitamin K and he was started on ranitidine.

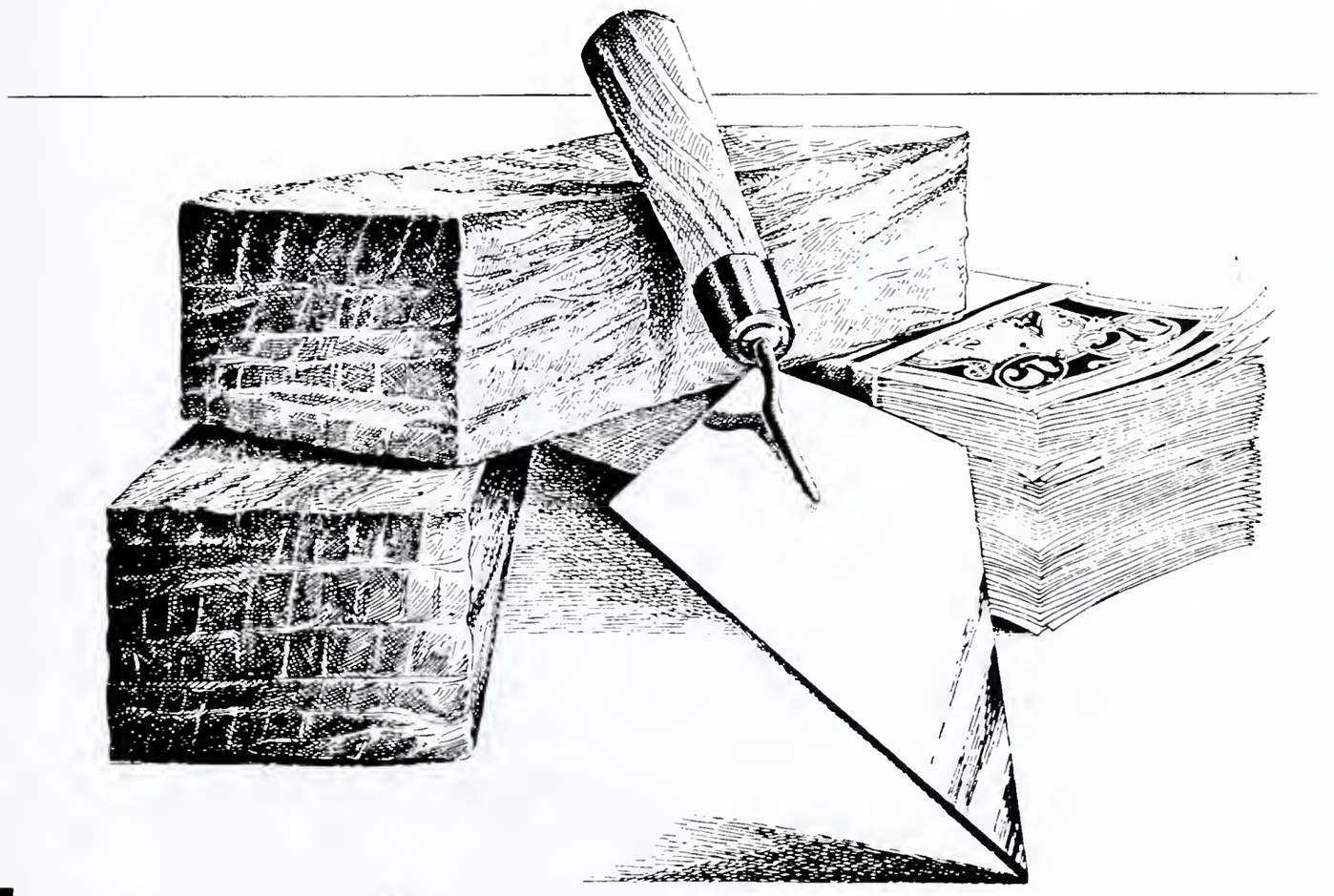
Endoscopy showed esophageal narrowing extrinsic in etiology. The esophageal mucosa was friable and ulcerated. Biopsies of the esophagus were interpreted as malignant involvement of the esophagus, possibly secondary to an extrinsic epidermoid tumor. Because of dysphagia, a Kaofeed tube was passed to provide nutrition as well as relief of secretions. Bronchoscopy showed what appeared to be extensive tumor involvement invading the mucosa of the carinal area. Because of the patient's symptom progression and the esophageal biopsy report, the patient was given one radiation treatment with Cobalt 60. This was stopped when the bronchoscopy biopsy specimens showed no tumor, only chronic bronchitis.

Because of the uncertainty of pathol-

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ogic diagnoses, mediastinoscopy was attempted, without success. Then, during a left thoracotomy, a large posterior mediastinal hematoma was discovered and evacuated. The esophagus was inadvertently entered and repaired. There was marked induration and edema of all surrounding tissues, secondary to the hematoma. Pathology specimens from the thoracotomy were interpreted as inflammatory tissue by one pathologist, as leiomyosarcoma by a second pathologist, and as equivocal by a third. Cultures grew out many beta-hemolytic Streptococcus, Group B, and few Klebsiella and Enterococci. The patient was placed on appropriate intravenous antibiotics.

Postoperative course was complicatd by Pseudomonas pneumonia and hemorrhagic pleural effusions. Fluid management also became a problem, requiring Swan-Ganz monitoring.

Because of the esophageal perforation, total parenteral nutrition was required until the perforation was sufficiently walled off to allow adequate oral nutrition. Gastrografin swallow and a repeat endoscopy showed a walled-off perforation of the esophagus. Biopsy specimens this time showed ulcerative esophagitis and no evidence of tumor.

The patient received transfusions as required to stabilize his hematocrit. Prior to discharge, he had no fever for one week off antibiotics, maintained a stable hematocrit, and had adequate oral caloric intake. He was discharged on his 46th hospital day.

Discussion

Mediastinal hematoma can be separated into 2 categories by etiology: spontaneous or traumatic. Traumatic causes include external trauma[1] or subclavian vein catheterization.[2-4] Spontaneous mediastinal hemorrhages are more unusual and have been classified into 4 causative categories:[5] (1) transient increases in intrathoracic pressure, such as when sneezing, coughing, or vomiting;[6-9] (2) alterations of clotting, such as hemophilia[10] and anticoagulation;[11-12] (3) tumor involvement of the mediastinum, such as parathyroid adenomas, thymic cysts, and goiters;[13] and (4) sudden sustained increase in systemic blood pressure.[14] In previous cases a widened mediastinum has suggested the diagnosis. This patient had a normal initial chest X-ray (Fig. 1), unusual for so much mediastinal hemorrhage. Workup of dysphagia showed the large posterior mediastinal mass.

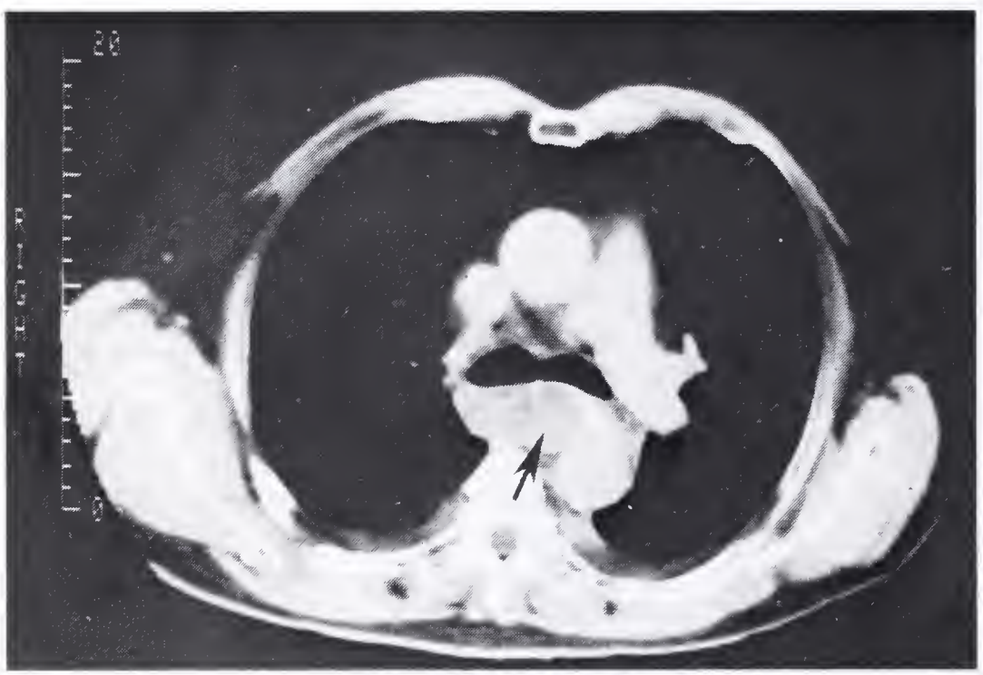


Fig. 3a

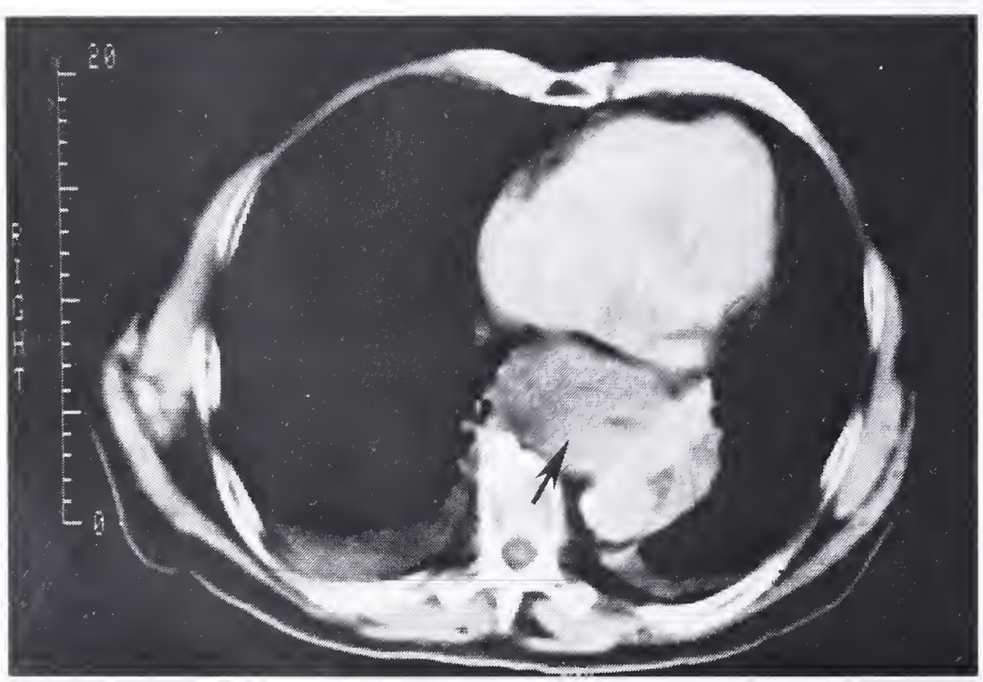


Fig. 3b

This case illustrates a number of diagnostic problems associated with mediastinal hematomas. The patient had 2 risk factors previously associated with mediastinal hemorrhage: anticoagulation and coughing. Because the CT scan suggested tumor and biopsy of the esophagus was interpreted as extrinsic tumor, the diagnosis of mediastinal hemorrhage was not made until thoracotomy was performed. Even then pathological opinion was evenly divided between inflammation and tumor. His clinical course subsequently has been benign. Repeat bronchoscopy is now normal. He is asymptomatic.

In conclusion, we emphasize two points: (1) mediastinal hemorrhage cannot be excluded because of a negative chest X-ray, and must be suspected in patients with associated risk factors; and (2) mediastinal hemorrhage should be considered as a cause of sudden onset of chest pain or dysphagia.

REFERENCES

1. Sandor F: Incidence and significance of traumatic mediastinal haematoma. *Thorax.* 22:43, 1967.
2. Bernard RW, Stahl WM: Mediastinal hematoma; complication of subclavian vein catheterization. *N.Y. State J. Med.* 74:83, 1974.
3. Eshaghy B, et al.: Mediastinal and retropharyngeal hemorrhage. *JAMA.* 226(4):427, 1973.
4. Fish B, Smulewica JJ: Mediastinal hematoma. *N.Y. State J. Med.* 80:1857, 1980.
5. Ellison RT, et al.: Spontaneous mediastinal hemorrhage in patients on chronic hemodialysis. *Ann. Intern. Med.* 95:704, 1981.
6. Sandor F, Cooke RT: Spontaneous cervicomediastinal haematoma. *Br. J. Surg.* 51(9):682, 1964.
7. Epstein AM, Klassen KP: Spontaneous superior mediastinal hemorrhage. *J. Thoracic and Cardiovas. Surg.* 39(6):740, 1960.
8. MacDonald RG, Kelly J: Cervico-mediastinal haematoma following sneezing. *Anaesthesia.* 30:50, 1975.
9. Stilwell ME, et al.: Spontaneous mediastinal hematoma. *J. Can. Assoc. Radiol.* 32:60, 1981.
10. Bart JB: Hemomediastinum and hemothorax in mild hemophilia. *South. Med. J.* 65(2):159, 1972.
11. Turetz F, et al.: Spontaneous anterior mediastinal hematoma: A complication of heparin therapy. *J. Am. Med. Wom. Assoc.* 34(2):85, 1979.
12. Packer JM: Radiologic seminar CXXI: Hemomediastinum associated with anticoagulant therapy. *J. Miss. State Med. Assoc.* 13:434, 1972.
13. Berry BE, et al.: Mediastinal hemorrhage from parathyroid adenoma simulating dissecting aneurysm. *Arch. Surg.* 108:740, 1974.
14. Culliford AT, et al.: Spontaneous mediastinal hemorrhage associated with renovascular hypertension. *Arch. Surg.* 112:1500, 1977.

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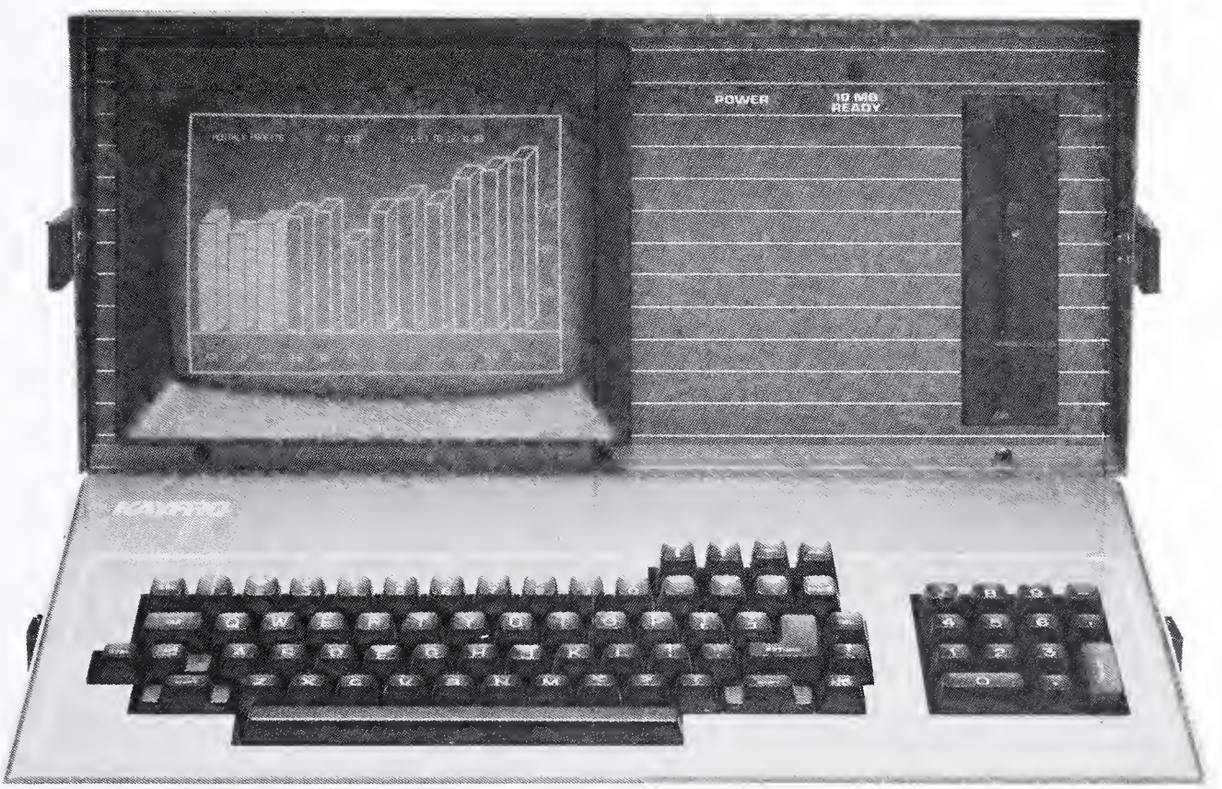
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Thyrotoxicosis Associated with Thrombocytopenia

Robert T.S. Jim, M.D.,* Honolulu

• *The occurrence of thyrotoxicosis and thrombocytopenia is not common. Earlier review of the literature revealed approximately 15 such cases[1]. Because of the rarity, 3 additional cases of thyrotoxicosis associated with thrombocytopenia are presented in this report.*

Case Reports

Case 1. M.U. was a 50-year-old Filipino man on whom the diagnosis of thyrotoxicosis was made in October 1961 at St. Francis Hospital. Eight months previously he complained of epistaxis, hematuria and melena, and a duodenal ulcer was found at that time. In October 1961 a microcytic hypochromic anemia (Hb 4.7g%) and thrombocytopenia (platelet count 11,000/cmm, direct method, Rees-Ecker) were found.

Bone marrow examination revealed an increase in megakaryocytes and normoblastic hyperplasia of the erythroid elements. The anemia was believed to be due to bleeding from the duodenal ulcer. A liver biopsy revealed slight infiltration by polys, lymphocytes and mononuclear cells and bile in the canniculi.

The patient was given propyl-thiouracil in doses ranging from 300-600 mg orally per day. After 5 days of propyl-thiouracil therapy, there was a transient rise in platelet count to 78,000/cmm, falling, however, to 11,000/cmm after 17 days of propyl-thiouracil treatment. In December 1961 4 millicuries of radioactive iodine (I-131) were given orally.

The patient became euthyroid. However, the thrombocytopenia persisted despite the return to a normal thyroid state. In February 1962 because of a slight recurrence of thyrotoxicosis, Tapazole 30 mg per day was started, and gradually reduced to 10 mg per day by May 1962 at which time it was discontinued. During Tapazole therapy, the platelet count rose from 4,000/cmm to 44,000/cmm. However, after discontinuation of Tapazole treatment, the platelet count ranged from 16,000-38,000/cmm. On November 6, 1963, because of recurrence of hyperthyroidism, an additional 4 millicuries of I-131 were given orally, but this second dose of I-131 was not followed by a rise in platelet count. The last platelet count was done on November 25, 1963, and was 14,000/cmm. Throughout his clinical course, the patient had no serious clinical bleeding. LE preps were done 5 times and all found to be negative.

Case 2. M.K. was a 35-year-old Japanese woman on whom the diagnosis of thyrotoxicosis was made in January 1962. At that time, petechiae were also noted on her extremities. Laboratory studies in January 1962 revealed a normochromic normocytic anemia of 10.2 g%, a white blood count of 4,000/cmm, platelet counts ranging from 6,000-76,000/cmm, and a positive direct Coombs test; a bone marrow had normal numbers of erythroid elements and megakaryocytes. On February 7, 1962, the platelet count was 6,000/cmm. On this date, 7 millicuries of I-131 were given orally.

Despite the return of the hyperactive thyroid state to a euthyroid condition, the thrombocytopenia persisted. On April 21, 1962, Meticorten 60 mg was started daily orally. This dose was then gradually reduced to 20 mg per day orally by May 28, 1962. On steroids there was only a slight rise in platelet count. On April 27, 1962, titer for thyroid antibody was found to be 1:4 (normal range 1:16 or less, BioScience Laboratories). Because of the persistent thrombocytopenia, splenectomy was performed on November 15, 1962, at St. Francis Hospital. A 75 g spleen was removed. Microscopic examination of the spleen revealed nonspecific congestion. Liver biopsy done at the time of splenectomy revealed an irregular lobular pattern, interstitial fibrosis and peri-ductual lymphocytic infiltration. These changes were believed to represent early cirrhosis. On November 16, 1962, the platelet count rose to 110,000/cmm and continued to rise to 400,000/cmm by November 27, 1962. Subsequently, all platelet counts have been in the normal range. During 1963, seven platelet counts ranged from 156,000-398,000/cmm. The last platelet count was 291,000/cmm on May 8, 1964. Eight LE preps done prior to splenectomy were all negative.

Case 3. P.K. was a 43-year-old Japanese woman on whom a sub-total thyroidectomy had been done in 1938 for hyperthyroidism. In 1951, thyroidectomy was again performed for recurrence of hyperthyroidism. In January 1958 10 millicuries of I-131 were given for recurrence again of hyperthyroidism. In October 1958 generalized petechiae were noted.

In June 1959 thrombocytopenia of 20,000/cmm was discovered for the first time. Bone marrow examination at that time revealed slight increase in megakaryocytes. Patient stated, however, that for the preceding 2 years she had experienced spontaneous ecchymoses, petechiae on scratching, and menorrhagia. She was started on Meticorten 40 mg per day orally; this was followed by a rapid rise in the platelet counts to normal. However, attempts to reduce the steroid dose resulted consistently in a corresponding fall in platelet count. On April 26, 1961, after continuous steroids for approximately 21 months, splenectomy was performed at Kuakini Hospital. The spleen weighed 80 g and showed a peculiar infiltration by large, pale foamy cells, found in focal clusters within the stroma of the spleen. These cells were strongly PAS positive, and were believed by Dr. Grant N. Stemmermann, pathologist, Kuakini Hospital, to be of the same type of lipoid histiocytic infiltration of the spleen as reported by Saltzstein and others[2] in certain varieties of thrombocytopenia. Response to splenectomy was immediate and excellent, with return to normal platelet counts. The last platelet count was 368,000/cmm on December 23, 1964, almost 4 years after splenectomy.

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Accepted for publication December 1983.

Ed. Note—This report previously appeared in the Kuakini Hospital Medical Bulletin in 1965. It is presented here because the significance of the findings are undiminished by time. Follow-up on these patients beyond this report is not available.



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Discussion

A causal relationship between thyrotoxicosis and thrombocytopenia has been suggested by several observations. Studies on the platelet level in thyrotoxicosis are few. In one study by Woodruff,[3] lower platelet counts were found in patients with thryotoxicosis than in normal individuals.[3] Some of the reported cases of thyrotoxicosis and thrombocytopenia appear to follow the antithyroid therapy. However, in other cases the medications cannot be implicated.

In cases 1 and 2 in this report, thrombocytopenia was discovered with the thyrotoxicosis prior to the institution of any form of antithyroid therapy, and appeared to be associated with the thyrotoxicosis. In case 3 in this report, thrombocytopenia was discovered approximately 18 months after 10 millicuries of I-131 were given; however, the patient might have had low platelet levels prior to the administration of I-131. The patient dated the onset of spontaneous ecchymoses, petechiae on scratching and menorrhagia about 6 months prior to the administration of I-131.

While a direct relationship between the I-131 administration and thrombocytopenia cannot be excluded, this would appear unlikely for the following reasons. Thrombocytopenia due to administration of I-131 appears to be dose-related, i.e., the larger the dose of I-131 the greater the incidence of thrombocytopenia.[4] In one large series where I-131 was used in the treatment of thyroid malignancies, total doses of I-131 less than 145 millicuries were not complicated by thrombocytopenia; thrombocytopenia was observed in 3% of the cases when the total dose averaged 468 millicuries.[4] Furthermore, the duration of the thrombocytopenia was transient and did not exceed one year after I-131 treatment. In Case 3, thrombocytopenia was present for at least 23 months after I-131 had been given. In W.H. Beierwaltes' opinion, "There is no evidence in the literature or in the United States Public Health Service follow-up of about 16,000 patients with thyrotoxicosis treated with I-131, that this radiation induced thrombocytopenic purpura."[8]

Following antithyroid therapy, the depressed platelet count may or may not return to normal in thyrotoxicosis. In Case 1, there were transient but temporary rises in platelet counts after propyl-thiouracil and Tapazole therapy, but no change in platelet counts after two courses of I-131 treatment. In the 3 cases presented here, there were no significant elevations in platelet counts after I-131 therapy despite return of the hyperthyroid state to a euthyroid one. In such cases where the thrombocytopenia persists despite return to a euthyroid state, splenectomy has restored the platelet counts to normal.[1, 5] In Case 3, large doses of steroids repeatedly produced return of the platelet count to normal levels; however, reduction in steroid dosage resulted in a corresponding fall in the platelet level. In Case 2, steroid therapy produced partial return of the platelet count to normal. In both cases 2 and 3, splenectomy produced apparent surgical cures with permanent return of the platelet counts to normal levels. The failure of thrombocytopenia to be corrected following return of the thyrotoxic state to normal after antithyroid drug therapy or I-131 in some patients would suggest a lack of relationship between the thyroid and platelet level. However, in many patients the thrombocytopenia associated with Graves' disease has been corrected after antithyroid treatment.[3, 6]

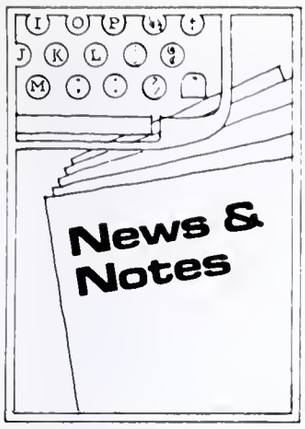
Splenomegaly, occasionally seen in thyrotoxicosis, has been proposed as a possible mechanism, via hypersplenism, for the etiology of the thrombocytopenia in thyrotoxicosis.[1] Splenomegaly has been found in some patients with thyrotoxicosis and thrombocytopenia. However, the normal size spleen found in cases 2 and 3 in this report would suggest other mechanisms responsible for the thrombocytopenia. In cases 1 and 2, changes consistent with minimal cirrhosis of the liver were found. Cirrhosis is found in a third to a half of all patients with thyrotoxicosis.[7] Thrombocytopenia may accompany cirrhosis and other varieties of diffuse liver disease. Thus, there may be an etiological relationship between liver changes and thrombocytopenia in thyrotoxicosis.

Summary

Three patients are presented in whom thyrotoxicosis was associated with thrombocytopenia. In all 3, antithyroid drug or radioactive iodine therapy did not result in permanent return of the depressed platelet count to normal. Steroid therapy resulted in slight improvement in one patient and in marked but temporary improvement in the thrombocytopenia in another patient. Splenectomy performed in 2 of the 3 patients resulted in apparent surgical cure and permanent return of the low platelet counts to normal levels.

REFERENCES

1. Girsh LS and Myerson RM: Thyrotoxicosis associated with thrombocytopenia and hypersplenism, *Am. J. Clin. Path.* 27(3):328, 1957.
2. Saltzstein SL: Phospholipid accumulation in histiocytes of splenic pulp associated with thrombocytopenic purpura. *Blood* 18:73, 1961.
3. Woodruff P: Behaviour of the blood platelets in thyrotoxicosis. *Med. J. Aust.* 2:190, 1940.
4. Haynie TP and Beierwaltes WH: Hematologic changes observed following I-131 therapy for thyroid carcinoma, *J. Nucl. Med.* 4:85, 1964.
5. Evans H and Perry KMA: Thrombocytopenic purpura. *Lancet* 2:410, 1943.
6. Caldwell WGD and Meikle M: Thyrotoxicosis complicated by thrombocytopenic purpura. *Brit. M.J.* 2:976, 1953.
7. Boyd W: Textbook of pathology, p. 1011. Lea & Febiger. 1961.
8. Beierwaltes, W.H.: Personal communication, dated March 2, 1965.



Henry N. Yokoyama, M.D.

Life in These Parts . . .

Pacific Rehab OT **Tracy Allen** was demonstrating how to bathe our mother who had a residual Lt hemiparesis following a stroke . . . Impressed by her expertise, we asked, "Should she sleep in a shorty muumuu or shorty pajamas?" Tracy shot back, "Do you sleep in pajamas?" We stammered, "Well . . . no, but . . ." (We tried to explain that we slept in our shorts . . .) "Aha! Gottcha! Sleep in the nude, eh?" We blushed, without knowing why, at her witticism . . .

During the PT orientation, physical therapist **Nansie Keiper** was demonstrating how a hemiparetic properly goes up and down stairs . . . "Good goes to Heaven and bad goes to Hell . . ." she repeated in a slow cadence. (The good leg leads up the stairs and the bad leg leads down the stairs . . .)

Visiting derm professor **Frank Parker,** from University of Washington, spoke on DH (dermatitis herpetiformis) at a Friday a.m. QMC conference . . . "My gastroenterology colleagues feel that the skin is an extension of the gut, but I prefer to consider the gut as connecting the oral and anal mucosa." When gastroenterologist **Stan Shimoda** asked, "Do you routinely biopsy the small bowel in DH?" Frank replied, "My punch biopsy doesn't extend that far . . ."

At the entrance to the KMC parking building, an elderly oriental driver drove up, pushed the parking card dispenser button, took a card, then inserted the card into the monthly card slot. Meanwhile the gate cross bar rose . . . Disappointed that there was no validation stamp forthcoming, he drove slowly up the parking ramp . . .

Miscellany

President Reagan, VP Bush, a priest, and a hippie were on Air Force One bound somewhere . . . The plane developed mechanical trouble and the pilot yelled over the intercom: "Bail out! We're going down!" The four passengers looked around and could only find three parachutes . . . Ron Reagan grabbed a chute and apologized, "The fate of the nation depends on me," and jumped . . . Vice President Bush took another chute and said, "President Reagan needs me

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and besides I'm the brilliant one!" and jumped ... The priest and the hippie look at each other ... The priest said, "Well, son, I've lived with God and I'm not afraid to die ... You take the last chute." The hippie said, "Well, Father ... Don't worry ... We still have two chutes left. You know that brilliant guy? He took my knapsack." (As told by Claire Loo, our MSD rep.)

A GP's Viewpoint

(Contributed by Fred Reppun)

Ed: We weren't able to include all of Fred's remarks on the Straub Cardiology Update 1984, held in February, in our last issue, so here's the balance.

More of the highlights on this conference include:

Dr. **Stephen Podolsky,** endocrinologist at Harvard and the Boston VA, on the peculiar and specific problems of heart disease in diabetics with hyperlipidemia; Dr. **William Ganz,** of UCLA, on the value of the information obtained from pulmonary wedge pressure readings as against the usual failure of clinical evaluation and central venous pressure readings in cardio-pulmonary failure; also the very latest data on streptokinase therapy in AMI and the need to institute such within 3 hours of onset (therefore i.v. rather than i.c.), reducing mortality by half; Dr. **Pravin Shah,** also from UCLA, on the depiction of valve function by means of 2-D and Doppler Echocardiography; Dr. **Robert Vogel,** from the University of Michigan, on the potential of measuring coronary blood flow by digital subtraction techniques; Dr. **Andreas Gruntzig,** from Switzerland but now at Emory U in Atlanta, who has done 3,000 transcoronary balloon angioplasties of athero-thrombotic disease, with 80% "good" results in non-diabetics (54% in diabetics), thus obviating to some extent CABG surgery (he has a remarkably meticulous system of follow-up for 5 years so far, and only 5 deaths).

Dr. **Robert Ginsberg**, of Stanford, gave us a clear and concise explanation of how color-sensitive tissues, e.g. coronary thrombi, can be destroyed or vaporized by precisely directed Argon Laser beams via fiberoptic filaments threaded to the site. The Argon beam is harmless until it sees red, which explains how it can traverse the cornea, aqueous humor, lens, and vitreous without "boiling" the globe, on its way to sizzling the retinal bleeder! (However, the electrical energy needed to direct this "healing" beam, by comparison, would require the electrical power grid of the entire USA to be able—just maybe—to shoot down a Soviet nuclear missile out in space!

Ed: Thanks again to Straub, Dr. Roy Itagaki, and to our reporter, Dr. Fred Reppun!

◊



Over the Editor's Desk

Harry L. Arnold Jr., M.D.

Hand surgeons will convene November 25 in Acapulco, at the Acapulco Princess Hotel, for the 14th annual meeting of the American Association for Hand Surgery. Write them at 2564 Branch St., Middleton, Wisc. 53562, if you're interested.

* * *

Plastic surgeons will be gathering in Las Vegas October 9-14 to listen to one another and you had until April 2 to submit an abstract if you wanted to be heard there. The address is ASPRS, 233 N. Michigan Ave. 1900, Chicago, Ill. 60601.

* * *

Spudis et al. say in the February Archives of Neurology *that brainwaves of 2 microvolts' amplitude probably are not indicative of a hopeful prognosis in an unconscious patient, and relatives need to know that life support in such cases probably will not restore the patient to a functional human being. Many such patients are kept alive too long.*

* * *

Electronic scanning/sorting of mail is being introduced by the U.S. Postal Service. To take advantage of its speed, addresses can't be in the "window" of a window envelope: they must start no more than ½ inch to the left of center, and exactly 14 lines down from the top; must be typed single-space, all in capital letters, without any commas or periods (they confuse the scanning "eye"); must stay within a 1-inch margin at the right; and must end at least ⅝ inch from the bottom. For best results they will also have to have the "ZIP+4" ZIP code. Names of states must not be either spelled out or abbreviated—you must use the two-letter acronym. Postmaster General William Bolger says this will speed up the mail and stabilize costs. Uh-huh! Want more details? Write to:

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for their free booklet, "How to Address Your Mail ... in the Electronic Age."

* * *

Upgrade your knowledge of coronary artery disease by requesting a free loan of the educational movie, "Perfusion and Function," a prizewinning film narrated and moderated by Jay Cohn, head of the Cardiovascular Division at the University of Minnesota Medical School. It's available in 16 mm, ¾" U-matic, VHS, or Beta II, from SK&F Health Media Center, c/o RHR Filmedia, 9 E. 38th St. 1103, New York, N.Y. 10016. Or telephone (1-800) 223-2342.

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* * *

AT&T Technologies (formerly Western Electric—did you know that? I didn't) offers an emergency call system—Medical Alert—for $249.90 for the console and one transmitter. The person in distress merely pushes the transmitter button, and the console (attachable to any modular phone) announces "emergency" repeatedly for 30 seconds, then dials the first of two preprogrammed emergency numbers and reports the accident or illness, and gives name and address and requests confirmation, which it relays to the victim. AT&T phone centers carry it.

* * *

DuPont now offers a pair of test kits to determine whether a breast cancer is hormone-responsive or not. Their address is Wilmington, Del. 19898.

* * *

If you're using Synerview CT, and have SD-05 (SD-600) or SS-03 Series S CT system level software, you might want to ask Picker International for their new product data sheet describing "SYNERFACTS," a computed tomography data information system expansion. There! I said it and I'm glad. But I didn't understand a word of it. You may write CT Marketing Manager, Picker International, 595 Miner Rd., Highland Heights, Ohio 44143.

* * *

An advanced angiographic system, Digicon 260, has been announced by Picker International. Same address. Or call (216) 449-3000.

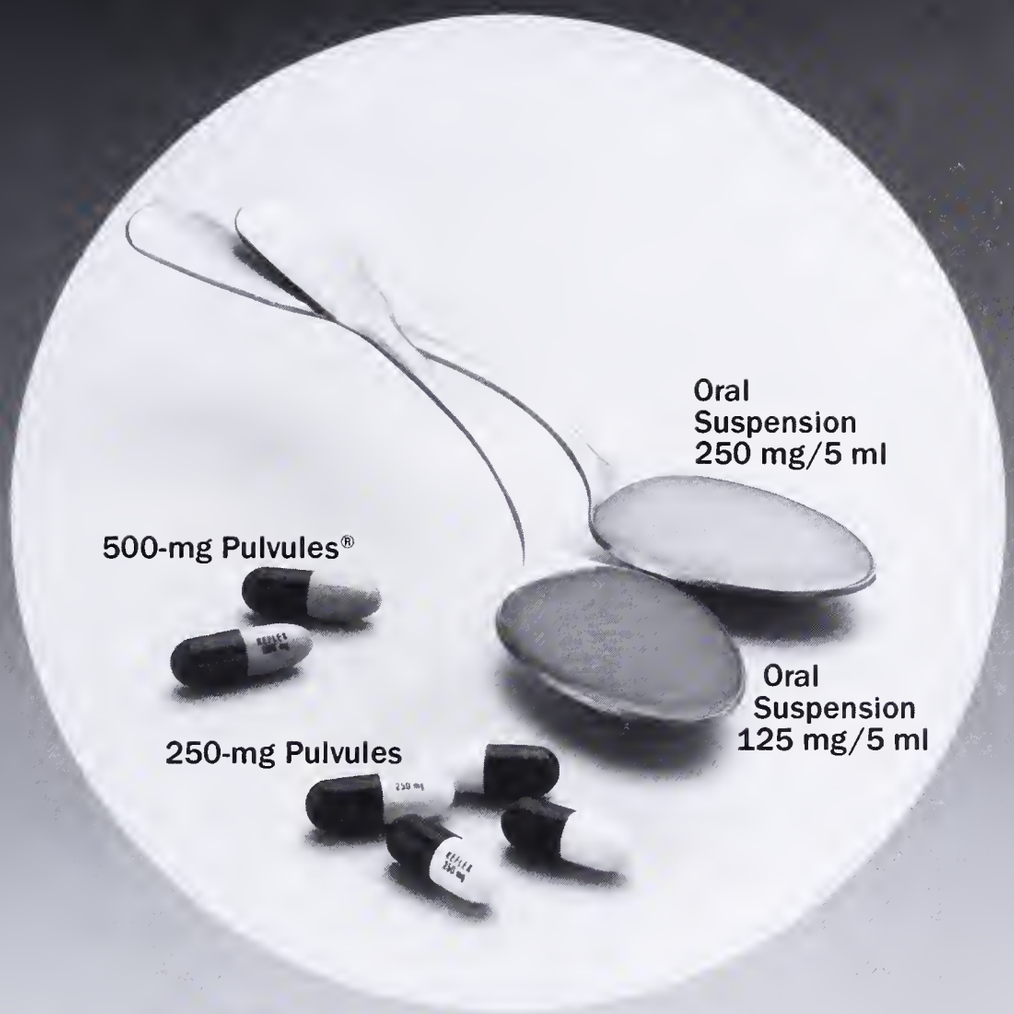
* * *

It's interesting and comforting to know that the CDC has no record so far of the transmission of AIDS to personnel caring for AIDS cases. So says Dr. Steven L. Solomon, in a recent JAMA. *However, there is at least one case described in which a drug addict and prostitute mother transmitted AIDS to her newborn, reported on CBS's "60 Minutes."*

* * *

Hospital administrators! AVI (1118 Red Fox Road, St. Paul, Minn. 55112) will help you with TEFRA, DRGs, and PPSs by sending you, without charge, their new IAMS (Instrument Asset Management System). It helps "determine financial viability of existing instrumentation and

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suggests acquisition alternatives to fulfill future IV instrumentation needs."

* * *

A high-resolution ultrasound system for central nervous system lesions that can locate lesions as small as 2mm in the brain or spinal cord—with the scanhead placed directly on the dura during surgery—is announced by ATL (Advanced Technology Laboratories), a Squibb company.

* * *

Ross Laboratories, Columbus, Ohio 43216, offers two new high-caloric, high-nitrogen solutions for stressed patients: ENSURE HN and ENSURE PLUS HN.

* * *

Theophylline anhydrous ("Theo-24"), the first once-a-day oral theophylline therapy in the U.S., has just been approved by the FDA. G.D. Searle markets it, for bronchial asthma or bronchospasm associated with bronchitis or emphysema.

* * *

A compact semi-automatic insulin pump has been introduced by Orange Instruments (3183 Airway Avenue, Suite F, Costa Mesa, Calif. 92626). They call it the Beta I.

* * *

"Guidelines for Cost Containment in Emergency Medicine" has been published by the American College of Emergency Physicians. Abstracted, these suggest not ordering tests which won't be useful or will only satisfy your curiosity; make judicious use of them to tell you some answers; re-evaluate protocols; don't order tests for purely medicolegal reasons; and involve the patient in your decisions not to order inappropriate tests. But when you don't order a test, be sure you could explain easily and confidently to a plaintiff's attorney why you didn't order it! This last caveat is our suggestion, not their Guidelines'.

* * *

This last item is from Volume 2, No. 2 (December 1983) of the *AMA Cost Effectiveness Bulletin.*

* * *

The fine line that divides legalism from insanity is being encroached upon again because of the government's intense desire to regulate professional efforts to enable a sterile woman to bear a child. A fertilized ovum cannot legally be removed from a uterus in Minnesota for transplantation into the intended mother's uterus, because this "exposes it to risk that cannot be justified because the risk has no therapeutic value for the ovum."

* * *

If you have patients on long-term oxygen therapy, look into Chad Therapeutics' (Woodland Hills, Calif. 91364) "Oxymizer," which releases a bolus of oxygen at the beginning of inhalation and then stores oxygen while the patient exhales. At a flow rate of 0.5 liters per minute, the same 0_2 saturation is achieved as with a standard cannula at 2 liters per minute. This not only saves money—it also permits the use of smaller, lighter tanks and improves the patient's mobility.

* * *

SMS, a leading provider of "computerized information processing services" to hospitals, announces "DRG Threshold Reporting," whereby the "threshold" at which a hospital wants a patient's length of stay or accumulated charges brought to its attention automatically will trigger such a report. It also will report daily the names of all DRG patients in the hospital so physicians can make sure they're under the right DRG number, and all patients who aren't will have a valid DRG assigned to them.

* * *

Five AIDS victims with retinopathy and retinal hemorrhage died within 4 to 6 months after the eye symptoms began, according to Khadem et al., writing in the February issue of the *Archives of Ophthalmology.* Such eye lesions appear to greatly worsen the immediate prognosis. The long-term prognosis, of course, is still a fatal outcome; no one has recovered yet.

* * *

The FDA already has approved 60 diagnostic kits using monoclonal antibodies, and approval of 20 more is pending.

* * *

The language grows. To "meld" means to display certain combinations of cards before the play of a pinochle hand—to "announce" (from German *melden*, to announce) your holding. Because these are combinations (4 of a kind, or K-Q, and so on) the word "meld" has come to be used extensively to mean "combine" or "commingle." Now comes President Hutchinson of the Medical Association of the state of Alabama, to tell us that ". . . cost containment is . . . so melled (sic!) with our image . . .!" Well, language is highly responsive to communication needs; and certainly "commingled," though it does mean what Dr. Hutchinson wanted to say, is awfully long and stuffy compared to "melled." Welcome, "melled." You're better than "melded," anyway!

* * *

Piroxicam (and perhaps other nonsteroidal anti-inflammatory agents) may do more than palliate arthritis: as reported on November 11 in JAMA, *it reduced the level of rheumatoid factor by a third, while it rose by a third in a placebo group.*

* * *

The Graduate School of Public Health, San Diego State University, is accepting applications now for August 1984 entry into its training program in maternal and child health, leading in 9 months to a Master of Public Health degree. Write to Helen M. Wallace, M.D., at the above school, San Diego, Calif. 92182.

* * *

General Electric's new mobile fluoroscopic system, the C-arm Polarix 2E, is said to be useful for imaging in thick areas such as hip and pelvis, upper abdomen, and chest. Electronically adjusted brightness and camera gain is what makes it work.

* * *

Want serum protein values in a hurry—or urine Sp.G.? NSG Precision Cells, Inc., at 560 S. Broadway, Hicksville, N.Y. 11801, offers the USR-20 refractometer for use in the clinical laboratory, for these purposes. An 0.3-ml sample suffices!

* * *

The FDA's determined effort to blame Reyes' Syndrome on aspirin and mount a massive publicity campaign against its use in children has come under severe fire from the Committee on the Care of Children. They say the studies are fatally flawed.

* * *

"Recent researchers at Harvard have incontrovertibly shown" that antibodies to the strange paired helical filaments characteristic of Alzheimer's disease do not interact with normal brain proteins. So say Yasuo Ihara and associates *(Nature* 1983, 304:727).

* * *

Amezcua, Storrs & Associates have for the first time found a wild armadillo in Mexico that had leprosy. It happened in 1979 and is still awaiting publication.

* * *

Sreevtsa and associates at the Central JALMA Institute for Leprosy in Agra, India, have found 3 patients with dapsone-resistant leprosy and one with partial resistance, all 3 of whom were also resistant to rifampicin at 0.001% (in their diet) though not at 0.01%. They had never received rifampicin before: the resistance was primary. The work has not yet been formally published.

* * *

Abbokinase (urokinase, Abbott), for lysing recent coronary arterial thrombi, has just been approved by the FDA for intravenous use.

* * *

McGivney & Crooks, in *JAMA,* urge that terminally ill cancer patients be given opioid analgesics without fear that they will become addicted. Currently many have adequate pain relief withheld from them because of this ill-founded fear.

* * *

DuPont announces a new monoclonal antibody test for theophylline which sharply distinguishes it from caffeine. It's used with DuPont's new "aca" discrete clinical analyzer.

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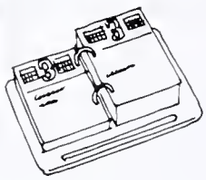
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Accredited Programs of CME allow one unit of AMA credit for each hour of instruction excluding all "breaks." Some programs also are accredited for AAFP prescribed credit.

LOCAL ACCREDITED PROGRAMS

ONGOING

For a complete list of ongoing programs, please refer to the March 1984 issue of the HAWAII MEDICAL JOURNAL. Further information is available through the individual institutions or through the HMA's CME Department.

SPECIAL EVENTS

All special events should be confirmed with the CME program sponsors, as cancellations are not necessarily reported to the HAWAII MEDICAL JOURNAL.

May 12-19, 1984	Initial Cardiac Treatment: Office and Emergency (AAFP 15 hours credit). Contact: Professional Seminars at (201) 379-1100. At: S.S. Constitution (cruise—Oahu, Hawaii, Maui, and Kauai).
May 19-26, 1984	Seminar on Current Medicolegal Issues. Contact: International Conference, 189 Lodge Avenue, Huntington Square, New York, N.Y. 11746, (516) 549-0869. At: Hawaiian Islands (cruise—various Islands).
June 16-26, 1984	Association of Schools and Colleges of Optometry Annual Meeting. Contact: 600 Maryland Avenue, SW, Suite 410, Washington, D.C. 20024, (202) 484-9406. At: Hilton Hawaiian Village, Honolulu, Hawaii.
June 23-30, 1984	Chest Diseases: Management of Emergencies (AAFP 15 hours credit). Contact: Professional Seminars at (201) 379-1100. At: S.S. Constitution (cruise—Oahu, Hawaii, Maui, Kauai).
July 7-14, 1984	Cardiovascular Medicine and Surgery (deals with most recent developments of clinical significance). Contact: Stanford School of Medicine, Office of Postgraduate Medical Education at (415) 497-5594. At: Mauna Kea Beach Hotel, Kamuela, Hawaii.
July 21-28, 1984	How to Cope with PPOs and Developing a Simplified Approach to Financial Planning for the Physician. Contact: Perkins and Zures, Inc., at (714) 787-8522. At: S.S. Independence Cruise, Honolulu, Hawaii.
Aug. 18-23, 1984	Responsibility Issues in Mental Health. Contact: Southern California Neuropsychiatric Institute at (619) 454-2102. At: Mauna Kea Beach Hotel, Kamuela, Hawaii.
Aug. 19-25, 1984	The 11th Hawaiian Seminar on Clinical Anesthesiology. Contact: Educational Programs, Division of the California Society of Anesthesiologists at (415) 348-1407. At: Maui Surf (Kaanapali Beach), Maui, Hawaii.
Oct. 25-28, 1984	Allergy, Immunology and Infections Disease. Contact: Joe Harrison, M.D., Symposium Maui, Inc., P.O. Box 10185, Lahaina, Maui, Hawaii 96761, (808) 661-8032.

HMA Council Meeting

Ed.: D. Jasinski, M.D.

HMA Council Highlights

Honored by the Council, on behalf of the HMA in February were:

• Dr. **Tom Cahill,** for his excellent work in conducting the well-run meeting as the HMA's first Speaker of the House of Delegates at the annual meeting of HMA, held on Maui last October. Tom was presented with a personally engraved gavel, to aid his future work in marshalling meetings.

• Dr. **Herbert Chinn,** presented with a plaque to say "thanks" for his 38 years of outstanding service and many contributions as a leader of both HCMS and HMA.

• Dr. **George Mills,** given a plaque to commemorate more than 29 years of devoted service, including 21 years serving the HMA Council, 6 years as Hawaii's own representative on the AMA Board of Trustees, and his many other roles of leadership in HCMS, HMA, and the community as a whole.

• Mrs. **Irene Wong,** who was recognized for her dedicated service for the past 30 years on the staff of HCMS and HMA. Irene's last job with our organization was as internal affairs director, in which she guided the office staff members in their assigned tasks.

• Plans are underway for a special dinner to be held during the AMA Interim Meeting in Hawaii, December 4, at Lau Yee Chai in Waikiki. The entire restaurant, which can seat at least 600 people, has been reserved. A local singing group, possibly the Honolulu Boy Choir, will be enlisted to assist with the entertainment. This interim meeting of the AMA House of Delegates is to be held at the Sheraton Waikiki December 2-5 and is expected to attract at least 3,000 people, including delegates from all over the U.S., plus their families.

• Plans for the next HMA Annual Meeting, Friday through Sunday, November 9, 10, and 11, are being developed under the leadership of Dr. **Russell Stodd.** The meeting is to be at the Kauai Surf Hotel and Convention Center. Dr. **Steve Berman,** chairman of the Scientific Program Committee, has been working with his committee to turn out an enticing offering to keep attendees at the scientific sessions.

• Recommendations have been made that the HMA and Internal Affairs Commission should consider a 5-year plan for the annual meetings to include review of the feasibility for a Big Island meeting in

Continued on page 170

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Poisonous Marine Plants and Animals

Summary of Therapeutic Guidelines

Joel K. Sims, M.D., Honolulu

Marine Plants

Categories

Phylum Cyanophyta..... blue-green algae
Phylum Pyrrophyta.....dinoflagellates
Phylum Cryptophyta cryptomonads
Phylum Chrysophyta.....yellow-green algae,
.....golden-brown algae diatoms
Phylum Chlorophyta.....green algae
Phylum Phaeophyta.....brown algae
Phylum Rhodophya red algae

Poisonous Marine Plants

Phylum Cyanophyta (blue-green algae)

Microcoleus lyngbyaceus (formerly *Lyngbya majuscula* Gomont)—"stinging seaweed"

"Stinging seaweed" dermatitis:

- Wash thoroughly with warm water and soap, removing all lyngbya
- Apply ice or cool compresses
- Vitamin A & D ointment has been reported to be helpful for some
- Followup for the poisoning
- Followup for infection (e.g., boils) and treat for infection, as indicated, on a definitive culture and sensitivity basis
- topical steriods are rarely indicated
- systemic steroids are very rarely indicated
- Treatments for consideration experimentally:
 —Isopropyl alcohol rinses prior to any other therapy
 —Adjunctive water-soluable vitamin therapy (e.g., Vitamin C)
 —Silver sulfadiazine creme (e.g., Silvadene®) locally
 —Local anesthetic ointments
 —Prostaglandin synthetase inhibitor (e.g., acetaminophen, indomethacin) vs. opiate analgesia
 —mucosal antipruritics (e.g., Preparation H) for perianal involvement
- education/prevention:
 —avoid lyngbya-laden waters
 —thoroughly rinse out bathing suit after each use

"Stinging seaweed" conjunctivitis:

- Rinse eye(s) thoroughly, removing all lyngbya
- Treat symptomatically, as indicated
- Treatments for consideration experimentally:
 —ophthalmological vs. systemic anti-inflammatory agents or analgesics
 —ophthalmological antibiotics—prophylactic or not
 —ophthalmological local anesthetics

Poisonous Marine Plants and Animals

- remove from exposure
- remove organisms & toxins
- treat symptomatically

Trichodesmium sp. (e.g., *Trichodesmium erythraeum*), or "sea sawdust"
Schizothrix calcicola
Hormothamnion solutum
Phylum Pyrrophyta
Ptychodiscus breve (formerly *Cymnodinium breve*), or NSP (neurotropic shellfish poisoning) organism

- remove from exposure
- remove organisms & toxins
- treat symptomatically

(Gonyaulax sp., or PSP ((paralytic shellfish poisoning)) organism)
(Gambierdiscus toxicus Adachi and Fukuyo, or ciguatera poisoning organism)
Phylum Cryptophyta
Phylum Chrysophyta
Fragilaria striatula, or Dogger Bank itch organism (other than the animal the sea chervil *Alcyondium hirsutum)*
(Prymnesium parvum, or fish kill organism
(Ochromonas sp. ((Ochromonas danica, Ochromonas malhamensis)), or fish kill organism
Phylum Chlorophyta
(Caulerpa sp. ((e.g., *Caulerpa racemosa*, et al.))
Phylum Phaeophyta
(Alaria esculenta)
Phylum Rhodophyta
(Rhodymenia palmata)

Poisonous Marine Animals

Phylum Porifera..... sponges
Phylum Coelenterata coelenterates, cnidarians
Phylum Annelida.....worms
Phylum Mollusca..... molluscs, cones, octopus
Phylum Echinodermata.....echinoderms, urchins
Phylum Chordata snakes, fishes

Phylum Porifera (sponges)

Tedania ignis—"stinging fire sponge"

- Remove sponge spicules with cellophane or adhesive tape
- Dilute vinegar soaks/compresses for involved area (e.g., 5% acid strength), 10-30 minute duration, Tid-Qid
- Methdilazine (e.g., Tacaryl®) 8 mg Bid-Qid (adults) or 4 mg Bid-Qid (children over 3 years old), PO, PRN, itching (if protracted)
- Aspirate purulent vesicles for fluid for C&S, and treat with appropriate antibiotic, as indicated (e.g., oxacillin for beta-lactamase-producing *Staphylococcus aureus*)
- Provide antitetanus therapy, as indicated
- Treat erythema multiforme, as appropriate
- Treat anaphylactoid reactions, as appropriate
- Followup for the poisoning
- Followup for infection (e.g., 3 days and 7 days post-injury)

Sponge fisherman's disease

- Treat as for coelenterate envenomization (e.g., Portuguese Man O' War) and, if the sponge is a known toxic sponge, treat as a sponge poisoning case as well (N.B, the venom is from the anemone nematocysts on the anemone tentacles which invade the sponge)

Phylum Coelenterata (e.g., jellyfish, Portuguese Man O' War, sea anemones, hydroids, stinging fire coral, stinging true corals, and palythoa/zoanthids)

- Apply vinegar to sting sites, then
- Apply unseasoned papain- or papase-containing meat tenderizer to the sting sites if the patient is not allergic to

. *Continued on page 168*

Accepted for publication January 1984.

Memo from the AMA

June Meeting in Chicago— Hospital Medical Staff Section

The third assembly meeting of the AMA-Hospital Medical Staff Section will be held June 14-18, 1984, in Chicago.

As both physicians and hospitals attempt to adjust to an increasingly competitive environment, medical staffs as a whole seek to join together for leadership. Organized medicine provides such leadership through the AMA-Hospital Medical Staff Section (AMA-HMSS). A number of societies also have established hospital medical staff sections or other programs to address medical staff issues and to provide leadership. These activities have strengthened the role of hospital medical staffs.

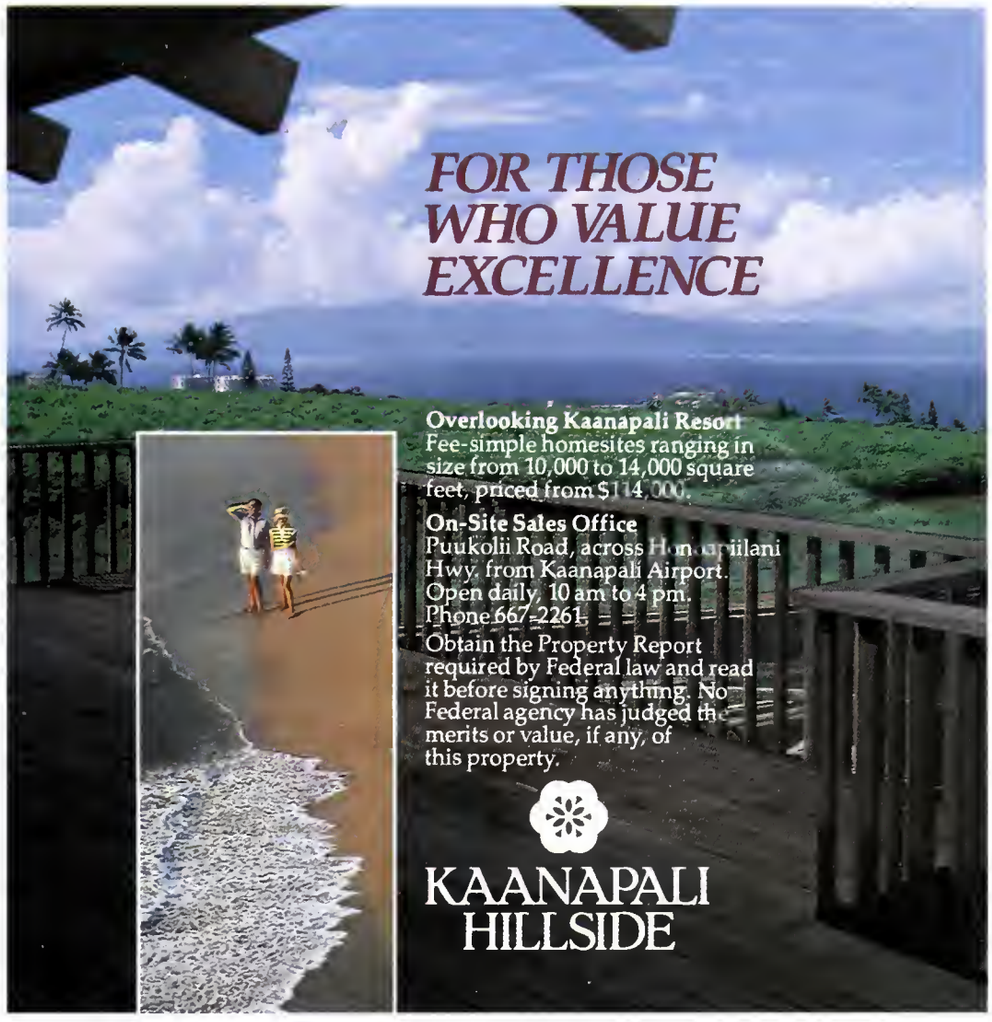
All hospitals are encouraged to send a representative to this third assembly meeting of the AMA-HMSS.

As a hospital medical staff representative, you should plan now to attend this 4-day assembly meeting. You will have an opportunity to contribute to the decision-making process and participate in developing policy that will address the issues and concerns of physicians on hospital staffs.

The AMA Hospital Medical Staff Section provides representatives from hospital medical staffs with a forum to discuss common problems and changes in physician-hospital relations, and a direct voice in policies being considered by the American Medical Association.

Group sessions are conducted on various topics of interest to hospital and medical staff members. Presentations include such topics as: credentialing, hospital contractual relations, and overall relationships between physicians and hospitals.

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Continued from page 166

papaya—do not use bromelain meat tenderizers
- *Safely* remove tentacle fragments, if any, using forceps, wirepliars, or other object (note: surgical gloves are not protective)
- If wheezes, provide subcutaneous racemic epinephrine 0.3 mg/M²/dose (i.e., 0.3 cc of 1:1000 dilution Adrenalin), every 20 minutes for up to 3 separate injections
- In moderate to severe cases give diphenhydramine (e.g., Benadryl®, 1 mg/kg IM or IV) or hydroxyzine (e.g., Vistaril® or Ataraxdexamethoasone (e.g., Decadron®) or 30 mg/kg methylprednisolone sodium succinate (e.g., Solumedrol®) IV over 15-30 minutes (N.B., do not rapidly inject this amount)
- For severe paresthesias, calcium chloride or calcium gluconate 5-20 mg/kg may be given IV slowly, with cardiac monitoring if necessary
- For sea wasp jellyfish stings (e.g., Australian *Chironex fleckeri)* use Sea Wasp Antivenin (Commonwealth Serum Laboratories-Australia), as indicated (N.B., product is equine so patients are to be tested for hypersensitivity prior to use—see pkg. insert)
- For hypotension, consider Medical Antishock Trouser (MAST) use
- Provide antitetanus therapy, as indicated
- Followup for the poisoning
- Followup for infection (e.g., 3 days and 7 days post-injury)

Phylum Annelida
- Remove bristles carefully with cellophane or adhesive tape
- Apply vinegar or calamine lotion
- Apply local anesthetic ointment, if needed
- H1 blockers or steroids may be provided—severe cases, if needed
- Provide antitetanus therapy, if indicated
- Followup for the poisoning
- Followup for infection (e.g., 3 days and 7 days post-injury)

Phylum Mollusca, Echinodermata, and Chordata-selected organisms bearing a grossly-visible spine (i.e., cone shells ((may respond poorly to the treatment outlined)), acanthaster starfish ((Crown of Thorns)), sea urchins, scorpionfish, stonefish, surgeonfish)
- Apply venoconstrictive tourniquet proximal to the wound, if able
- Incise wound, if needed (this is needed especially for cone shell stings), but do *not* suck on the wound
- Infiltrate sting site with local anesthetic (without epinephrine), if needed (e.g., this is very rarely needed with sea urchin stings)
- Provide systemic naloxone-reversible anesthetics IM or IV, if needed (e.g., almost invariably not needed for sea urchin stings; may have little analgesic effect in some stingray and stonefish stings)
- Put puncture site in hot water (e.g., 45-50°C, or as hot as one can stand it without scalding the tissues—test with own hand first) until pain is relieved (e.g., up to 5-15 minutes for sea urchins and up to 90 minutes for stingrays)
- Remove spine and accessories, when able—goal is complete removal*
- Provide antitetanus therapy, as indicated
- Followup for the poisoning
- Followup for infection (e.g., 3 days and 7 days post-injury)
- For sea urchins, obtain followup, including X-rays, for retained spines that are near bone if the spines are of calcium carbonate
- For stonefish stings the Stonefish Antivenin (Commonwealth Serum Laboratories-Australia) may be used, as indicated—see pkg insert

*Sea urchin spines of the thin filamentous non-calcium-carbonate type may be left in for resorption

Phylum Mollusca—Octopus bite envenomation
- Establish and maintain airway, as needed
- Place victim at rest—make comfortable
- Make NPO
- Apply venoconstrictive tourniquet proximal to bite site, if able
- Wipe venom off wound surface
- Irrigate wound thoroughly
- Incise wound, but do *not* suck on the wound
- Debride wound, as needed
- Provide supportive therapy, as needed (e.g., respirator)
- Treat symptomatically (e.g., consider atropine for bradycardia)
- Provide antitetanus therapy, as indicated
- Followup for the poisoning
- Followup for the infection (e.g., 3 days and 7 days post-injury)

Phylum Chordata—sea snake envenomation

Pelamis platurus—yellow-bellied sea snake
- Place victim at rest—make comfortable
- Apply venoconstrictive tourniquet proximal to bite site, if able

OR
- Use pressure-immobilization technique

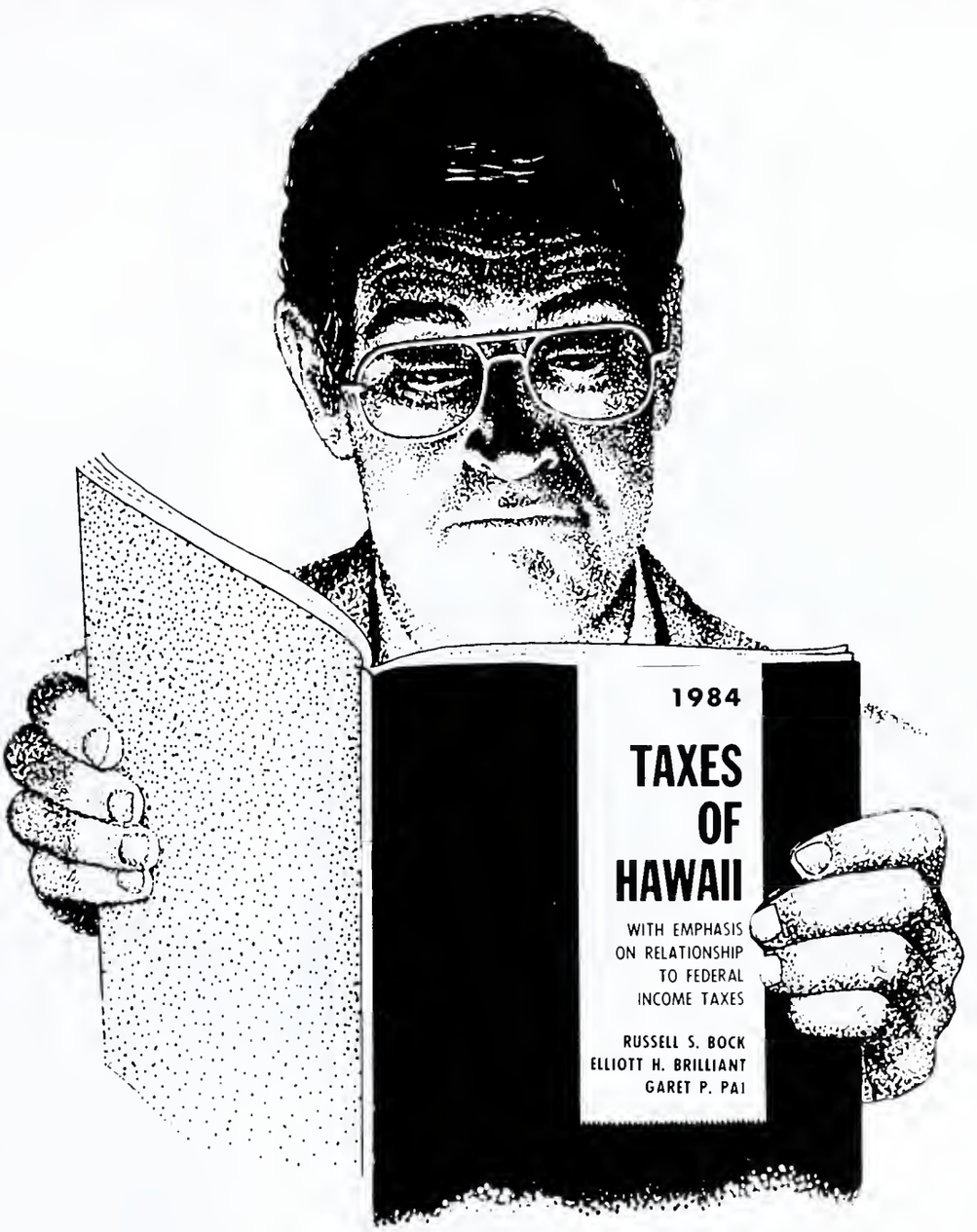
AND
- Do not apply ice to the bite site
- Do not incise or suck the wound
- Do not administer any opiates
- Administer Sea Snake Antivenin (available from Commonwealth Serum Laboratories-Australia), as indicated (N.B., not all bites result in envenomation, not all envenomations need antivenom, but all intended recipients of the antivenom require testing for hypersensitivity to the antivenom prior to considering antivenom administration (the antivenom is an equine or horse derivative)
- Provide supportive therapy, as indicated (e.g., respirator, hemodialysis)
- Followup for the poisoning
- Followup for the infection (e.g., 3 days and 7 days post-injury).

Overall note: each victim for each category is to be assessed to the extent of the ABCs (i.e., airway, breathing, circulation) initially (i.e., first), with application of cardiopulmonary resuscitation, as indicated. The clinical management often follows the ABCDs: airway, breathing, circulation, and decontamination, where decontamination refers to decontamination of the poison and/or foreign bodies and/or micro-organisms.

REFERENCES

1. Edmonds C: Dangerous marine animals of the indopacific region. Weidnel Publications, Newport, Australia, 1978.
2. Halstead BW: Poisonous and venomous marine animals of the world. Revised Edition. Darwin Press, Princeton, New Jersey, 1978.
3. Sims JK: Environmental emergencies—animal toxins. 1982 American College of Emergency Physicians Winter Symposium, Kaanapali, Maui, April 22, 1982, American College of Emergency Physicians, Dallas, Texas.
4. Sims JK, Irei MY: Human Hawaiian marine sponge poisoning. *Hawaii Med. J.* 38:263-270, 1979.
5. Turner B, Sullivan P, Pennefather J: Disarming the bluebottle. *Med. J. of Australia* 2:394-395, 1980.
6. Arnold HL Jr: Portuguese Man-of-War ("Bluebottle") stings: treatment with papain. *Straub Clinic Proceedings* 37:30-33, 1971 (Jan.-Mar.)
7. Mullaney PJ: Treatment of stingray wounds. *Clin. Toxi.* 3:613-615, 1970.
8. Sims JK, Zandee van Rilland RD: Escarotic stomatitis caused by the "stinging seaweed" *Microcoleus lyngbyaceus* (formerly *Lyngbya majuscula)*—Case report and literature review. *Hawaii Med. J.* 40:243-248, 1981.
9. Sims JK: Dangerous aquatic organisms, in Barry J (ed): Emergency Nursing. McGraw-Hill, New York, 1978, pages 391-399.
10. Arnold HL Jr, Grauer FH, Chu GWTC: Sea weed dermatitis apparently caused by a marine alga. Proceedings of the Hawaii Academy of Science, 34th annual meeting, 1958-1959, 1959, pages 18-20.
11. Grauer FH: Dermatitis escarotica caused by a marine alga. *Hawaii Med. J.* 19:32-34, 1959.
12. Grauer FH, Arnold HL Jr: Seaweed dermatitis. *Archives of Dermatology* 84:720-732, 1961.
13. Baslow MH: Marine pharmacology. Robert E. Krieger Publishing Company, Huntington, New York, 1977.
14. Schwimmer M, Schwimmer D: The Role of algae and plankton in medicine. Grune & Stratton, New York, 1955.
15. Shilo M: Toxigenic algae. in Hockenhull DJD: Progress in Industrial Microbiology. Churchill Livingston, London, 1972, Volume II, pages 233-265.
16. Music SI, Howell JT, Brumback CL: Red tide—its public health implications. *J. of the Florida Med. Assoc.* 60:27-29, 1973.

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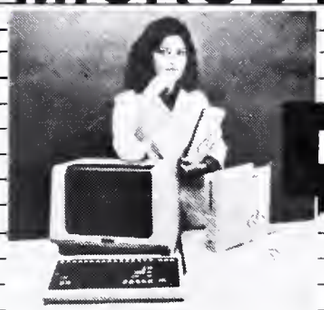
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Continued from page 165

1985, then back to Oahu in 1986.

• With the increasing urgency for all physicians to acquire professional liability coverage (due to multiple factors too numerous to list here), President **Sakai Uehara** sent a letter to all members on how to obtain excess insurance coverage, relating to the serious depletion of the state's Patients' Compensation Fund. The bill to force all physicians to get "malpractice" coverage, in order to be licensed in this state, thankfully did not make it through the legislature this year. But next year's another year, another session!

• **Becky Kendro** of the HMA staff has been serving during the just ended legislative session as the HMA's lobbyist, and she has been working hard to cover legislative issues of special interest to physicians, to testify at hearings, and to assist in the preparation of testimony, as well as assisting in the survey of HMA membership on legislative issues.

• Dr. **George Mills** reported on the very active committees that come under his Community and Professional Relations Commission:

• The Medical, Ethical, Moral and Legal Committee, under the chairmanship of psychiatrist Dr. **Elizabeth Adams,** has been meeting twice a month to study the concerns regarding heart-lung transplants—specifically, whether this is to be considered experimental, investigational, or an established procedure. Dr. Mills and Dr. Adams attended Dr. **Norman Shumway's** discussion of his work in this area at the Stanford Medical Center in California. Dr. Shumway spoke at the recent Straub Cardiology Update, which has been reported on elsewhere in this JOURNAL. Dr. Adams presented testimony at the Legislative's Committee on Human Services in February.

• A HMA policy statement on organ transplants is evolving, through the work of Dr. Adams' committee, the HMA Council and the component member societies in each county.

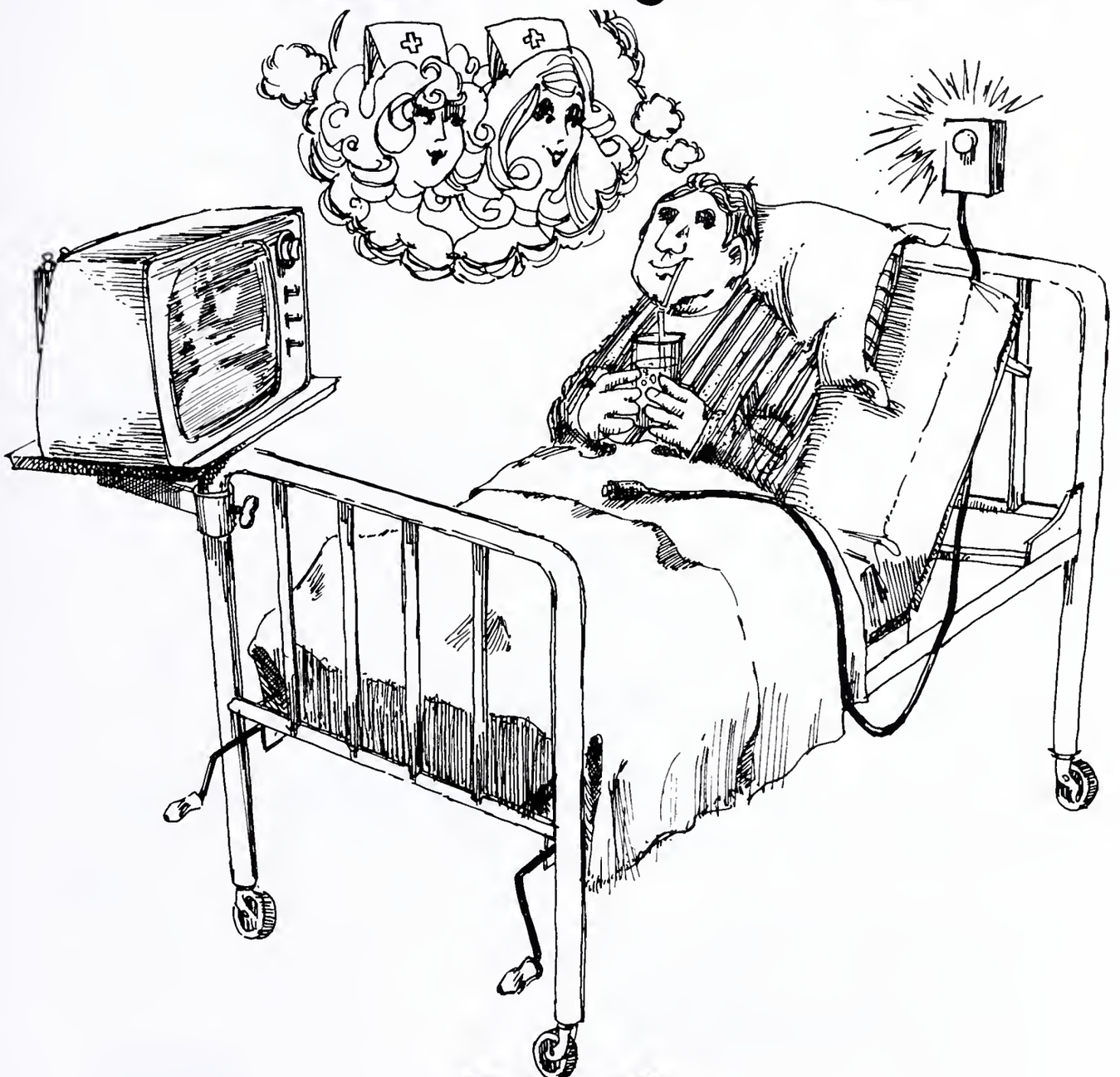
Dr. Mills has recommended continuation of the subcommittee for Technical Advisory and Cost Effectiveness Review, and further that the Hawaii Health Institute be maintained as the main committee for the purpose of establishing and reinforcing communication between physicians, business people, and the community at large, through the HMA.

• The Hawaii Peer Review Organization Executive Board has been approved to proceed with the development of Hawaii PRO. By-laws have been approved.

• The annual meeting the AMA House of Delegates is to be in Chicago June 17 through 21. Drs. **Calvin Kam, Sakai Uehara, William Iaconnetti,** and **William Hindle** will attend, along with HMA Executive Director **Jon Won.**

◊

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CONTENTS

Continuing Medical Education 177

Over the Editor's Desk 178
Harry L. Arnold Jr., M.D.

HMA Auxiliary News 179

Hereditary Spherocytosis and Thalassemia 180
Fortunato V. Elizaga, M.D., and Praphan Puapongsakorn, M.D.

Developments in Asbestos-Related Disease 182
D.G. Massey, M.D.

Carotid Endarterectomy at Queen's Medical Center 186
Paul Bogden, M.D.

Book Reviews 188
D.G. Massey, M.D., and W.H. Hindle, M.D.

HAFP Newsletter 190
Dr. Don and Mrs. Marlies Farrell

AMA Membership Award to HMA 191

Editorial—Consultations: Part 3 192
J.I.F. Reppun, M.D.

Clinical Pathologist's Chair—Cerebrospinal Fluid: A Re-examination 194
Francis H. Fukunaga, M.D.

Military Assistance (MAST) and MEDEVAC on Oahu, 1974-1978 200
Susan Arkoff; Michael Penick, MICT; Chris Zbiciak, MICT; and J.K. Sims, M.D.

Salt Water Drowning 208
Linda L. Wong, B.S., and J. Judson McNamara, M.D.

HAWAII MEDICAL ASSOCIATION · 1856 ·

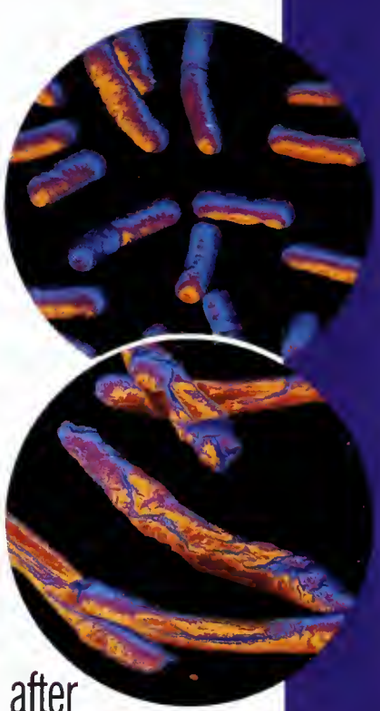
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Color-enhanced scanning electron micrograph shows *E. coli* 736 culture growing on Adams and Roe agar.



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E. coli 736 culture after 24-hour incubation with Bactrim (trimethoprim and sulfamethoxazole/Roche) at 5×MIC. Note distorted shape of destroyed bacteria.

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Bactrim is indicated for the treatment of recurrent urinary tract infections due to susceptible strains of *E. coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris* and *Proteus morganii*. However, it is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single antimicrobial agent rather than the combination.

Maintain adequate fluid intake during therapy. Bactrim is contraindicated in pregnancy at term, during lactation, in infants under two months of age and in documented megaloblastic anemia due to folate deficiency.

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(trimethoprim and sulfamethoxazole/Roche)

B.I.D. for enhanced compliance.

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Please see summary of product information on the following page.

BACTRIM™ (trimethoprim and sulfamethoxazole/Roche)

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For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, hepatocellular necrosis, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

Pregnancy: Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, hepatocellular necrosis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

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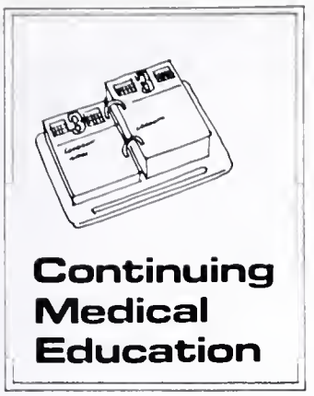
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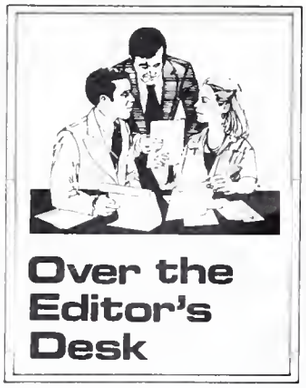
ONGOING

For a complete list of ongoing programs, please refer to the March 1984 issue of the HAWAII MEDICAL JOURNAL. Further information is available through the individual institutions or through the HMA's CME Department.

SPECIAL EVENTS

All special events should be confirmed with the CME program sponsors, as cancellations are not necessarily reported to the HAWAII MEDICAL JOURNAL.

June 16-26, 1984	Association of Schools and Colleges of Optometry Annual Meeting. Contact: 600 Maryland Avenue, SW, Suite 410, Washington, D.C. 20024, (202) 484-9406. At: Hilton Hawaiian Village, Honolulu, Hawaii.
June 20-24, 1984	Western Thoracic Surgical Association Annual Meeting. Contact: William Maloney, 13 Elm Street, P.O. Box 1565, Manchester, Mass. 01944, (617) 927-8330. At: Hyatt Regency, Maui, Hawaii.
June 23-30, 1984	Chest Diseases: Mgmt. of Emergencies (AAFP 15 hrs. credit). Contact: Professional Seminars at (201) 379-1100. At: S.S. Constitution Cruise through Oahu, Hawaii, Maui, Kauai.
June 24-July 1, 1984	Kaiser Permanente Pediatrics Conference, Special Symposium on Neonatology and Pediatric Gynecology. Contact: S. Black, M.D., Kaiser Hospital, 280 W. MacArthur Blvd., Oakland, Calif. 94611. At: Wailea Beach, Maui, Hawaii.
June 30, 1984	Contraceptive Update 1984. Contact: Art Tani, Office of Family Planning, (808) 735-3558, or D. Chang, UH/CME, (808) 947-8573. At: Outrigger Prince Kuhio, Honolulu.
July 7-14, 1984	Cardiovascular Medicine and Surgery. Contact: Stanford University Medical Center, Room TC 129, Stanford, Calif. 94305, (415) 497-5594. At: Mauna Kea Beach Hotel, Hawaii.
July 21-28, 1984	How to Cope with PPO's *and* Developing a Simplified Approach to Financial Planning for the Physician. Contact: Perkins and Zures, Inc., at (714) 787-8522. At: S.S. Independence Cruise, Honolulu, Hawaii.
Aug. 10-15, 1984	Pre-Symposium Workshop: "Roles and Responsibilities of Physicians and Mental Health Specialists in the Courtroom: Views from the Bench." Contact: G. Waldron, M.D., Southern California Neuropsychiatric Institute, 6794 La Jolla Boulevard, La Jolla, Calif. 92037, (619) 454-2102.
Aug. 18-23, 1984	XI Annual Symposium, "Responsibility Issues: Crisis and Controversies." Contact: G. Waldron, M.D., Southern California Neuropsychiatric Institute, 6794 La Jolla Boulevard, La Jolla, Calif. 92037, (619) 454-2102. At: Mauna Kea Beach Hotel, Kamuela, Hawaii.
Aug. 19-24, 1984	The 11th Hawaiian Seminar on Clinical Anesthesiology. Contact: Educational Programs, Division of the California Society of Anesthesiologists at (415) 348-1407. At: Maui Surf (Kaanapali Beach), Maui, Hawaii.
Aug. 19-25, 1984	American Fertility Society, 1608 13th Avenue South, Suite 101, Birmingham, Ala. 35256. At: Hyatt Regency, Maui.
Sept. 15-22, 1984	Echo/Doppler Cruise—Echocardiography. Contact: Institute for Medical Studies, 14761 Franklin Avenue, Suite A, Tustin, Calif. 92680, (714) 832-2650. Cruise the Hawaiian Islands.
Oct. 1-5, 1984	International Symposium on Medical Transport—An Emerging Sub-specialty. At: Honolulu.
Nov. 2-3, 1984	Seminar on Aging: "New Hope for an Old Problem." Contact: Moana, 888 S. King St., Honolulu, Hawaii 96813, (808) 523-2311, Ext. 8153. At: Honolulu Academy of Arts Theatre, Honolulu, Hawaii.
Nov. 9-11, 1984	"Infectious Diseases: Current Status and New Horizons," Hawaii Medical Association 128th Annual Scientific Meeting. Contact: Jennie Asato, 320 Ward Avenue, Suite 200, Honolulu, Hawaii 96814, (808) 536-7702. At: Kauai Surf Hotel, Lihue, Kauai.
Dec. 2-5, 1984	American Medical Association—Interim House of Delegates. Contact: Bob Hobard, Dept. of Meeting Management, AMA, 535 North Dearborn St., Chicago, Ill. 60601. At: Sheraton Waikiki, Honolulu.
Dec. 5-8, 1984	The Fourth Annual Asian-Pacific Congress of Medical Marathoners in conjunction with the Twelfth Annual AMJA Symposium on The Athletic Heart: Physiological Adaptation to Environmental Stress. Contact: Hugh Ames, P.O. Box 27332, Chinatown Station, Honolulu, Hawaii 96827. At: Moana and Surfrider hotels, Honolulu.
Dec. 27-29, 1984	"Allergy and Asthma." Contact: Symposium Maui, Inc., Joe Harrison, M.D., P.O. Box 10185, Lahaina, Maui, Hawaii 96761, (808) 661-8032. At: The Royal Lahaina, Maui.
Jan. 3-5, 1985	"Allergy and Dermatology." Contact: Symposium Maui, Inc., Joe Harrison, M.D., P.O. Box 10185, Lahaina, Maui, Hawaii 96761. At: The Royal Lahaina, Maui.
Jan. 10-12, 1985	Allergy and Immune Diseases in Children. Contact: Symposium Maui, Inc., Joe Harrison, M.D., P.O. Box 10185, Lahaina, Maui, Hawaii 96761, (808) 661-8032. At: The Royal Lahaina, Maui.
Jan. 17-19, 1985	ACOG-CME, ACOG, 600 Maryland Avenue, S.W., Washington, D.C. 20024, Harrison C. Visscher, M.D., Director of Education, (202) 638-5577. Location: The Kauai Surf Hotel.
Jan. 20-26, 1985	"6th Annual Royal Hawaiian Eye Meeting," Hawaiian Eye Foundation. Contact: Dr. John Corboy, Hawaiian Eye Foundation, (808) 621-8448. At: The Royal Lahaina Resort Maui.



Over the Editor's Desk

Harry L. Arnold Jr., M.D.

Communicability of AIDS may end when it becomes symptomatic, according to Hans Neumann, M.D., of the New Haven, Conn., Health Department. No documented case appears to have been acquired through intimate contact with a patient already manifesting an opportunistic infection.

* * *

Intravenously administered acyclovir given for severe herpes simplex to a patient with mycosis fungoides induced a remission of the MF, and did it again when the MF relapsed in 2 months, Resnick et al. report in the March 23-30 JAMA.

* * *

Laska et al. present impressive evidence that 65 mg of caffeine enhances by almost half the analgesic effectiveness of aspirin or phenacetin taken with it. It's in *JAMA* for April 6.

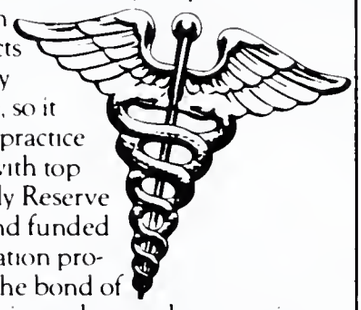
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Obstetricians: write the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 for free copies of "Preventing Fetal Alcohol Effects: a Practical Guide for OB/GYN Physicians and Nurses." A very instructive small pamphlet!

* * *

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* * *

Depo-Provera, approved in the U.S. only for treating endometrial and renal cancer, is now approved in the U.K. for contraceptive use as well.

* * *

Karger is offering Plastic Surgery—Past and Present, *by J. Gabka and E. Vaubel, of Berlin, at $43 off the list price, or $123.75.*

* * *

It may take us 3 or 4 days to wipe all the egg off our face that we got from that item (May, page 162) kidding Dr. Henry Hutchinson, president of the Alabama Medical Association, about using the word "melled" to mean "combined or commingled." He was perfectly correct, and we were wrong. The word "mell," meaning "mix or combine (with)," has existed in English since the year 1300, and even though *Random House Dictionary* says it's "Brit. dial." now, it has an honorable history, and we should have looked it up in the dictionary before we took typewriter in hand to kid Dr. Hutchinson about it. We apologize!

* * *

Do you want to stop smoking? Call 524-1234 and ask for the Cancer Society's new free "Quit for Good" kit.

* * *

Need a microscope? Bausch & Lomb is offering a $100 rebate on each Galen II model binocular microscope through September 15.

* * *

Hewlett-Packard has a new low-cost fetal monitor; ask a local outlet about it if you're interested. It's listed at $4,280.

* * *

Upjohn is about to market Micronase (glyburide), the first new antidiabetic oral medication for Type II diabetes in 18 years. They're much smaller than the others, and once-a-day use is usually effective.

* * *

"Preferred Provider Organizations" will be discussed by a panel of distinguished experts at a conference to be held September 18-19 at the Biltmore Hotel in Los Angeles. Information is available from Business Week Executive Programs, 1221 Avenue of the Americas, Suite 4049, New York, N.Y. 10020, or call (212) 512-4930.

* * *

Electromedical Products, of Hawthorne, Calif. (12591 Crenshaw Boulevard, 90250), announces Alpha-Stim 350, a pain-management system for home use. William Bauer, a Case Western Reserve otolaryngologist, reported success with it in head and neck pain *(Arch. Otolaryngol.* 109:382, 1983).

* * *

Is peripheral vascular disease your bag? You might do well to ask Dr. Manfred Asricam of Life Sciences, Inc., 270 Greenwich Ave., Greenwich, Conn. 06830, about the new PVR/APL heomdynamic vascular laboratory and registry. It seems to record everything!

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HMA Auxiliary

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The Kilohana Room at the Naniloa Surf was the setting for the spring fashion show and plant and craft sale that netted more than $1,200 for AMA-ERF. Expertly arranged by **Lilian Matayoshi,** county and state coordinator for AMA-ERF, the show featured clothes from Wonmi's Fashions. Also shown were unique shell, gem, and cord items by Terrie Chillingworth and delightful hats from J.C. Penney. Models were Auxiliary Members **Bobbie Aikman, Jean Chen, Sue Irvine, Sherry Lim, Kathy Oldfather, Midge Mebane,** and **Karen Zelko.**

Continuing Education

The Honolulu County Auxiliary had 2 very worthwhile programs, arranged by **Bonnie DeJournett,** educational program chairman. In April, "Teen Problems" was presented. The meeting was open to the public, with response from 35 health-related agencies and schools. David Shearer, M.A., clinical and counseling psychologist, was the first speaker and gave valuable advice on dealing with today's teenagers. A good source of information, he feels, is *"Parent Effectiveness Training"* by Thomas Gordon. Jane Hale, director of the Teen Crisis Intervention program at Kapiolani/Children's Hospital, spoke on "Teen Pregnancies." She reported the situation is improving, thanks to her program and others offered by Planned Parenthood, March of Dimes, and the Mary Jane Center in Kalihi.

The second seminar, "Medical Practice, New Ways of Reimbursement," held in May at the Pacific Club, focused on DRGs, PPOs, HMOs, what they are, their use, and their impact on physicians' practices. Speakers were Dick Stenson, hospital administrator, **Dr. Robert Flair,** and Marv Hall, HMSA, and their knowledge of innovations in this field provided valuable data.

Special Interest Program Chairmen **Kathy Lipp** and **Patty Lindberg** worked to plan 2 interesting excursions, one on Mayan art, held at the Academy of Art, and the other an historic house walking tour.

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Hereditary Spherocytosis and Thalassemia

Fortunato V. Elizaga, M.D., F.A.C.P.* and
Praphan Puapongsakorn, M.D.,* * Honolulu

• *The combination of hereditary spherocytosis and thalassemia is extremely rare. Only three patients of such combination have been reported in the medical literature.[1-3] Cunningham and Villa[2] reported a 28-year-old Jordanian male with hereditary spherocytosis and an elevated hemoglobin A_2. Our patient had in addition, elevated hemoglobin F.*

Case History

A 24-year-old Filipino man was admitted to the hospital because of progressive jaundice and weakness. He was well until 4 years prior to admission when he experienced left upper quadrant pain and jaundice. He would gradually improve, but his jaundice would not completely resolve. With ingestion of alcohol he noticed that his jaundice would get darker. One month before admission he developed weakness and progressive jaundice without abdominal pain, fever, nausea, or vomiting. He denied exposure to chemicals or drugs except for occasional aspirin for headache or fever. On occasion, he had heavy alcohol consumption. He denied a family history of jaundice or blood disorder.

Physical examination revealed a slight icterus and an enlarged spleen which was palpable 3 centimeters below the left costal margin. The remainder of the examination was normal.

Laboratory data included the following: hemoglobin 12.7 g/dl; hematocrit 35.9%; MCH 32 micro-microgram; MCV 89 cubic micra; MCHC 35.9%; reticulocyte count 12.2%; WBC 8,200 with 64% segmenters, 7% bands, 34% lymphocytes, 5% monocytes and 6% eosionphils; total bilirubin 4.2 mg%; direct bilirubin 0.9 mg%; normal alkaline phosphatase, SGOT, SGPT, and LDH; serum haptoglobin was less than 25 mg%; negative urine hemosiderin; increased osmotic fragility; hemoglobin A_2 (cellulose acetate method) 3.9%; hemoglobin F (alkali denaturation test) 4.9%. The scan showed moderately enlarged spleen.

Blood smear showed slight anisopoikilocytosis, moderate polychromasia and numerous microspherocytes.

Postsplenectomy, his jaundice gradually disappeared and his mild anemia resolved.

Discussion

Elevated hemoglobin A_2 and/or F are usually found in thalassemia syndrome, particularly in beta thalassemia, presumably as a compensatory phenomenon for the decrease or absence of beta chain. Hypochromia, microcytosis, and mild to marked anisopoikilocytosis are characteristic.

Elevation of hemoglobin A_2 and hemoglobin F associated with hereditary spherocytosis has been reported.[1] Our patient had the clinical and hematologic features of hereditary spherocytosis, i.e., jaundice, splenomegaly, reticulocytosis, high MCHC, microspherocytosis, and increased osmotic fragility. In addition he had an elevated hemoglobin A_2 and hemoglobin F.

The combination of hereditary spherocytosis and sickling is not unusual[3, 7-10], but the combination of hereditary spherocytosis and thalassemia is extremely rare. Only 3 patients with this combination have been reported in the medical literature.[1-3] The patient reported by Aksoy and Erdem had both the peripheral blood morphology of thalassemia and elevated hemoglobin A_2 and hemoglobin F. Cohen et al described a patient with peripheral blood morphology of thalassemia but with normal hemoglobin A_2. They postulated that the thalassemic gene was present but its effect was suppressed by the presence of the spherocyte gene or by the combination of spherocytosis and sickling.

Cunningham and Vella[2] reported a Jordanian man with hereditary spherocytosis and an elevated hemoglobin A_2 but without morphologic characteristics of erythrocytes attributable to thalassemia. They classified his thalassemia as a variant of beta thalassemia. Our patient in this report appeared to have a similar disorder. Elevation of hemoglobin A_2 without morphologic characteristic features of thalassemia has also been reported.[5]

Thalassemia is common among Filipinos. Hereditary spherocytosis also occurs but presumably is much less common. To our knowledge, this is the first report of this rare combination in a Filipino. It is unfortunate that a family study of this patient could not be done. Both parents and other siblings were all in the Philippines.

An interesting feature of this patient was that his jaundice was noted to be intensified by ingestion of alcohol. Characteristically, icterus in hereditary spherocytosis is intermittent and associated with fatigue, cold exposure, emotional distress, and pregnancy.[6]

Association with or intensification of icterus in hereditary spherocytosis by alcohol, to our knowledge, has not been previously described.

Whether alcohol increases the hemolytic process in hereditary spherocytosis is not known. Zieve[4] originally described hemolysis in alcoholics with associated transient hyperlipidemia. He suspected lysolecithin responsible for the increased hemolysis.

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REFERENCES

1. Aksoy M, Erdem S: The combination of hereditary spherocytosis and heterozygous beta-thalassemia. *Acta. Hematologica.* 39:183-191, 1968.
2. Cunningham TA, Vella F: Combination of spherocytosis and a variant of beta-thalassemia. *J. Med. Genet.* 4:109-111, 1967.
3. Cohen F, Zuelzer WW, Neel JV, Robinson AR: Mutiple inherited erythrocyte abnormalities in an American negro family: Hereditary spherocytosis, sickling and thalassemia. *Blood* 14:816-827, 1959.
4. Zieve L: Jaundice, hyperlipidemia and hemolytic anemia: A heretofore unrecognized syndrome associated with alcoholic fatty liver and cirrhosis. *Ann. Int. Med.* 48:471-496, 1958.
5. Bannerman RM: *Thalassemia.* New York, Grune & Stratton, 1961, p. 53.
6. Wintrobe MM, et al.: Hereditary Spherocytosis, in *Clinical Hematology,* 8th ed, Philadelphia, Lea & Febiger, 1981, p. 758.
7. Smith EW, Conley CL: Clinical features of the genetic variants of sickle cell disease. *Bull. Johns. Hopk. Hosp.* 94:289-318, 1956.
8. Torregrosa MV, Ortiz A, Vargas D: Sickle cell-spherocytosis associated with hemolytic anemia. *Blood* 11:260-265, 1956.
9. Jones B, Klingberg WG: Hemoglobin S-hereditary spherocytosis. *J. Pedia.* 54:375-378, 1959.
10. Whitaker JA, Windmiller J, Vietti T, Sartain P: Hereditary spherocytosis associated with sickle cell trait and cholelithiasis. *J. Pedia.* 63:65-68, 1963.

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Developments in Asbestos-Related Disease

D.G. Massey, M.D. FACP*, Honolulu

• *Increasingly, asbestos is assuming an importance beyond its widespread biological effects. It has brought occupational medicine to the attention of the general public and to the medical profession at large. No longer is it difficult to persuade medical students and residents to take an occupational history in detail; and continuing educational programs attract widespread interest.*

This paper will focus on some of the newer developments and clarify older concepts, with some discussion of the perspective from Hawaii.

What is Asbestos?

Formerly, physicians needed only to know that asbestos is a fibrous silicate which readily absorbs such carcinogens as cigarette smoke, oils, and metals. Thus, there are not only fibrinogenic and carcinogenic effects of asbestos, but the influence of its contaminants to consider. Now there is increasing evidence that the type of asbestos influences the pattern of disease.

There are two types of asbestos: chrysotile (white), which constitutes more than 90% of the asbestos used in the United States; and the amphiboles, of which crocidolite (blue), amosite (gray), and anthophyllite are commercially important. The influence of the asbestos type in disease is well-illustrated by examining mesotheliomas. Chrysotile is associated with fewer mesotheliomas than crocidolite, and anthophyllite has not been associated at all. The length and diameter of the fibers are crucial factors—crocidolite has long, narrow fibers, whereas anthophyllite has broad fibers.

The asbestos-exposed worker usually will know the color of the asbestos to which he has been exposed. Thus, the pattern of effects and degree of risk can often be estimated.

The use of crocidolite commercially should be eliminated because of the mesothelioma hazard.

Important Occupational Sources of Asbestos

Mining, milling, and manufacturing are important sources. Asbestos finds its greatest use in the construction industry. One-third of annual consumption is in the manufacture of cement and cement products such as water pipes and corrugated sheeting; these contain 15-20% asbestos. Asbestos textile workers have a very high risk of significant exposure.

Of particular importance is the increasing realization that building maintenance and renovation are hazardous, particularly because of the number of workers involved, the high concentration of dust that can occur in the confined, poorly ventilated spaces where the work is often carried out, and the minimal precautions taken by the worker. Many school classrooms in Hawaii have incorporated asbestos in construction, according to news reports.

Particular emphasis should be placed in history-taking on construction, electrical, plumbing, and maintenance experience of patients with suspected or proven asbestosis.

How Significant is the Lag Period?

The prolonged period between the onset of asbestos exposure and the manifestations of asbestos-associated disease is characteristic. Although acute asbestosis can appear in a matter of months and pleurisy in 2 to 10 years, the fibrosis usually requires 15-30 years to become detectable. The lag for cancer is even longer, with bronchogenic carcinoma rarely appearing before 30 years, and mesothelioma about 40 years after initial exposure.

This prolonged latent period has important implications. One must realize that the disease we see today reflects exposures in the 1940s to 1960s. In the presence of radiological evidence of asbestosis or mesothelioma, for example, one should inquire as to the father's occupation and take a detailed history of the early working years and hobbies.

There seems little justification for removing older workers with asbestos-associated disease from their jobs if they wish to continue and are able. Another few years of exposure probably will be of little importance in their final disease outcome.

How Valid is the Dose-Response Relationship?

There is widespread acceptance of the principle that the greater the exposure to asbestos, the more disease likely to develop; and also that the disease pattern will be modified. Thus, tiny doses could lead to mesothelioma, larger doses to fibrosis, and the highest doses to carcinoma.

From this relationship follows the concept of prophylaxis by dust control and dust control standards. It has been suggested that, as fibrosis results from less exposure than does carcinoma, dust standards should be based on the more stringent levels relative to the former.

However advantageous the dose-response relationship may be as a basis for controlling disease, it is unlikely to be linear:

1—The type of asbestos influences the disease. As described elsewhere, chrysotile is less important than crocidolite in induction of mesothelioma, and the amphibole anthophyllite is not associated at all.

2—The specific industrial process to which the worker is exposed also influences the effects: miners and millers are at relatively low risk even though the rock mined may contain 14% asbestos; manufacturing of cement products is a greater risk; and installation work such as "pipe-lagging" can be high risk.

3—Smokers have a much greater risk than non-smokers.

4—Ethnicity, at least in Hawaii, appears to be a factor.

Thus prophylaxis cannot be entirely dependent upon efforts to promote "safe" concentration of fibers at work. Banning of crocidolite would be desirable, as has been done in the United Kingdom. The use of short fibers might be encouraged. The education of those in building maintenance should have priority. Emphasis on not smoking should be intensified. It is perhaps the high percentage of non-smokers in Hawaii that is responsible for the benignancy of asbestos exposure here.

What is Asbestosis?

In the past, the term asbestosis applied equally to the fibrotic process in the lung and in the pleura. We presently reserve the term for the former, i.e., a pneumoconiosis caused by asbestos and characterized by discrete fibrotic foci in the wall of the respiratory bronchioles, accompanied by asbestos bodies.

How is Asbestosis Diagnosed?

From a practical point of view, asbestosis is frequently diagnosed from a history of exposure and radiological evidence of small irregular opacities or even pleural plaques.

A more solid diagnosis is based on some or all of the following: exposure which began many years previously; breathlessness; inspiratory crackles; clubbing; a restrictive syndrome, with changes in compliance at an early stage and diffusion later; radiological evidence of small irregular opacities and pleural plaques, especially with calcification; and diffuse fibrosis accompanied by asbestos fibers histologically.

A precise pathological diagnosis is made on finding discrete fibrotic foci in the walls of the respiratory bronchioles,

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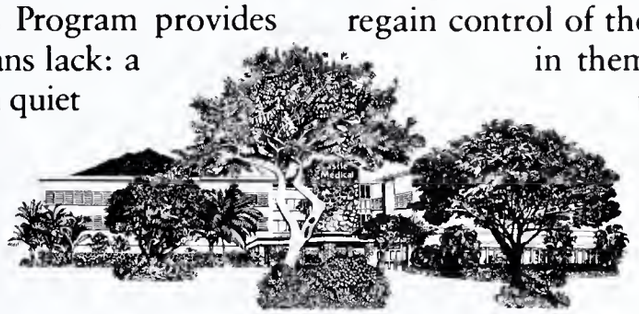
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and nearby asbestos bodies. At first the foci are in the first order of respiratory bronchioles and then spread distally to the alveolar ducts and proximally to the terminal bronchioles. A diffuse interstitial pneumonia and fibrosis may be present. Neither diffuse fibrosis nor asbestos bodies alone are sufficient for the histiologic diagnosis.[1]

Because of the initial sparcity of the lesions, open lung biopsy rather than transbronchial biopsy is recommended as a diagnostic procedure.

Asbestosis is uncommon in Hawaii. A cohort of active shipyard workers had only 2.1% pleural plaques and 0.1% asbestosis radiologically.

Asbestos in obstructive syndrome

Although the restrictive syndrome is characteristic of asbestosis, the contribution of asbestos to chronic obstructive pulmonary disease (COPD) continues to be debated, especially in tort litigation. Some investigators deny the asbestos relationship, attributing COPD in the asbestos worker mostly to cigarettes, and also to other occupational exposures, childhood infections, allergy, and airway pollution.[2]

A few clinical studies support the relationship of asbestos to chronic bronchitis and chronic airway obstruction.[3, 4] A review of the asbestos literature reveals in most reports a number of subjects with the obstructive syndrome, often in the absence of a smoking habit.[5] Experience among non-smoking shipyard workers in Hawaii supports this relationship.

At present the consensus is that the burden on the whole community of asbestos-induced COPD is negligible, but it may be larger than suspected.

How is Impairment Assessed?

Impairment is defined as a medical condition which is characterized by a loss of function, unresponsive to therapy and with no reasonable prospect for improvement. Disability implies a disturbance in health which interferes with the whole person.

A widely used guide to respiratory impairment is that of the American Medical Association (AMA).[6] Unfortunately, it was not formulated with the parenchymal restrictive syndrome in mind, and its use in asbestosis can lead to inappropriate assessments.

New guidelines are now available.[7] They are simple to use and include a pulmonary function algorithm. The initial assessment is based on the forced vital capacity (FVC) curves, followed sequentially by the diffusing capacity, progressive treadmill exercise and, finally, the steady-state treadmill test, as the decision-making process in diagnosis becomes more and more difficult.

What is Pleural Asbestosis?

This is composed of pleural plaques, diffuse pleural thickening, and pleural effusions. The first is by far the commonest, the second is sometimes seen, and the third is rarely found.

The plaques are markers of exposure to asbestos and as such are used as predictors of carcinoma, although many sharply disagree with the validity of this practice. They are generally considered symptomless and not causing functional impairment.

Is Asbestos-Induced Cancer Important?

By the late 1970s, there was increasing emphasis on the contribution of asbestos to the cancer burden of the community-at-large. A document from the National Cancer Institute, National Institute of Environmental Health Science, and National Institute for Occupational Safety and Health[8] attributed almost a fifth of U.S. cancer deaths to asbestos.

The last few years have seen welcome modifications in this figure. At the 1981 Cold Spring Harbor Laboratory meeting, several speakers placed this at 1% to 2% of American cancer mortality. This is also the figure found by Doll and Peto.[9] A prospective mortality study of a cohort of Pearl Harbor Naval Shipyard workers is also in agreement with the figure of 1%.[10]

Should one examine only lung cancer, some 5% may be associated with asbestos.[9]

Asbestos-associated bronchogenic carcinoma generally occurs at a younger age than does lung cancer in patients not exposed to asbestos. The cancer, in contrast to previous teaching, can occur at a peripheral or a central site and may be of any one of several histological types.[1] In some series, adenocarcinoma predominates and, as it is usually associated with fibrosis, occurs in the lower lobes.

There is nothing diagnostic about asbestos-associated carcinoma in a given patient, but the following factors are given some weight: exposure, onset and duration, intensity of exposure, smoking, and radiological markers.

Mesothelioma

Given the diagnosis of mesothelioma and an exposure to asbestos, causation is almost always accepted. However, the diagnosis can be inaccurate even in the presence of clinical, radiological, pleural fluid and biopsy evidence; confusion can occur in certain instances with sarcoma, metastatic carcinoma, or the spread of bronchogenic adenocarcinoma across the pleura.

There are, however, a number of promising diagnostic leads. Mesothelioma epithelial cells contain glycogen which can be removed by diastase, whereas carcinoma contains PAS-positive diastase-resistant mucin. CEA is not found in mesothelioma but is in bronchogenic and bronchoalveolar carcinoma. Mesotheliomas also contain hyaluronic acid, which has specific characteristics, and intermediate keratin fibers.[1]

The soundest approach is to submit the case to the Mesothelioma Panel.[1]

Asbestos & Non-Respiratory Cancer

A number of non-respiratory carcinomas have been associated with asbestos exposure. The strength of this association has been questioned recently because the principle of the dose-response relationship has not followed; and non-respiratory carcinomas are not more common in the presence of bronchogenic carcinoma.[2]

We have pointed out that the dose-response relationship is not linear. It could be added that non-respiratory carcinomas do not appear with bronchogenic carcinoma perhaps because the prognosis of the latter is so poor. For such reasons, it would seem unwise to reduce screening programs in these areas.

Conclusions

In this update on asbestos-associated disease, established data has been reaffirmed or questioned and new information introduced. One of the more optimistic aspects is that the burden of cancer induced by asbestos is now estimated to be considerably less than previously thought. The dose-response principle is modified by fiber type, specific industry, cigarettes, and general air pollution. The pathology of asbestosis has been clarified, fibrotic foci in the walls of the respiratory bronchi with associated asbestos bodies being the essential lesion. Associated bronchogenic carcinoma is even less characteristic pathologically than previously suggested with regard to site and histology. Finally, asbestos-associated disease in Hawaii appears less frequent and milder than reported elsewhere.

REFERENCES

1. Report of the Pneumoconiosis Committee of the College of American Pathologists and the National Institute for Occupational Safety and Health (Craighead JE, chairman). *Arch. Pathol. Lab. Med.* 1982; 106:542-96.
2. Weill H: Asbestos-associated diseases. *Chest* 1983; 84:601-8.
3. Jodoin G, Gibbs GW, Macklem PT, Becklake MR: Early effects of asbestos exposure on lung function. *Am. Rev. Respir. Dis.* 1971; 104:525-35.
4. Churg A, Wright JL: Airway changes with asbestos exposure: Do specific lesions exist? *Am. Rev. Respir. Dis.* 1982; 125:154.
5. Fournier-Massey G, Becklake MR: Pulmonary function profiles in Quebec asbestos workers. *Bull. Physiopath. Respir.* 1975; 11:429.
6. The respiratory system. In: Committee on rating of mental and physical impairment. Guides to the evaluation of permanent impairment. Chicago: American Medical Association, 1977:67-77.
7. Kass I: American Thoracic Society statement: Evaluation of impairment/disability secondary to respiratory disease. *Am. Rev. Respir. Dis.* 1982; 126:945-51.
8. Bridbord K, Decoufle P, Fraumeni JF, et al.: Estimates of the fraction of cancer in the United States related to occupational factors. Bethesda, Md.: National Cancer Institute, National Institute of Environmental Health Science, and the National Institute for Occupational Safety and Health, 1978.
9. Doll R, Peto R: The cause of cancer; Quantitative estimate of avoidable risks of cancer in the United States today. Oxford, England: Oxford University Press, 1981.
10. Kolonel LN, Hirohata T, Chappell BV, Viola F, Harris DE: Cancer mortality in a cohort of naval shipyard workers in Hawaii: Early findings. *JNCI* 64:739-43.

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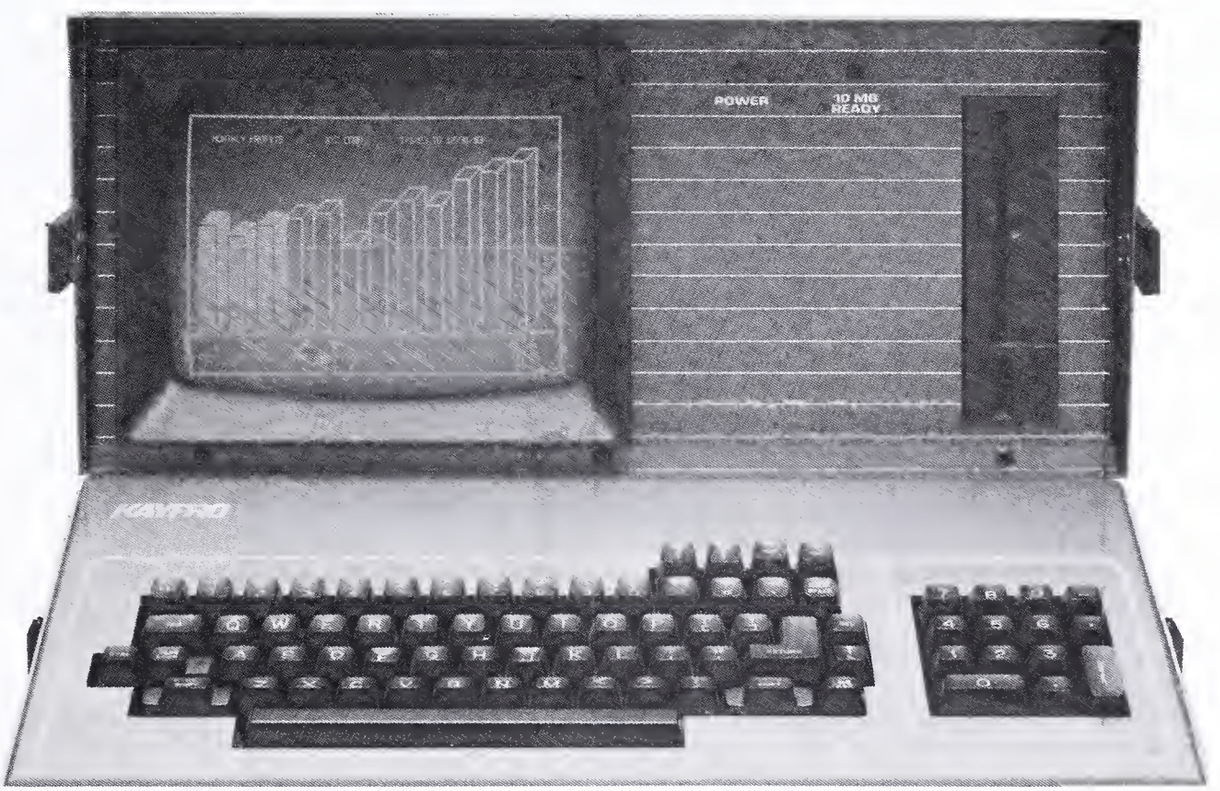
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Carotid Endarterectomy:

Complication Rate at Queen's Medical Center, 1981-83

Paul Bogden, M.D.,* Honolulu

• *The surgical complication rates for carotid endarterectomy vary greatly among reporting institutions (Table 1). The rate of complications has not been reported in Hawaii. Since this information is essential to physicians who would make such surgical referrals, this study analyzes the current complication rate at the Queen's Medical Center.*

Methods

A retrospective analysis was performed, using charts of 100 consecutive patients who underwent carotid endarterectomy at the Queen's Medical Center from July 1981 to November 1983. The study was confined to the last 100 operative cases, in order to reflect most accurately the current expected surgical risk. The cases were found to be divided among 6 surgeons. Patients who underwent bilateral carotid endarterectomies were considered to represent 2 surgical cases, one for each procedure.

Charts were reviewed in order, beginning with the most recent admission. Computer census lists were used to ensure that all cases during the study period were identified. Charts which were initially unavailable were subsequently retrieved to avoid selection bias. Each chart was reviewed for complications occurring during the hospitalization for carotid endarterectomy. Complications which may have occurred after discharge could not be tabulated. All cases were examined for the occurrence of death, stroke, intraoperative myocardial infarction, and wound hematoma.

Patients were also analyzed by preoperative risk factors, as previously described by Sundt, et al.:[4]

Group 1 included stable patients with no medical, neurological, or angiographically-defined risk factors.

Group 2 was composed of stable patients with angiographic risk factors. These factors were occlusion of the contralateral common or internal carotid artery, widespread or extensive atherosclerosis of the artery to be operated on, or involvement of the artery in the region of the carotid siphon.

Group 3 included patients with medical risk factors, with or without angiographic risk factors. Medical risk factors were defined as angina pectoris, documented widespread systemic atherosclerosis, congestive heart failure, malignant hypertension with diastolic pressure more than 110 mm. Hg. or systolic pressure more than 180 mm. Hg., chronic obstructive pulmonary disease, morbid obesity with weight more than 300 pounds, or age more than 70 years old.

Group 4 included all patients with neurologic risk factors, with or without medical and angiographic risk factors. Neurologic risk factors were defined as a progressing neurological deficit, or daily TIA's for at least 7 days prior to surgery.

TABLE 1.
Representative risks of carotid endarterectomy

	Year	No. of Pts.	OP Mortality (%)	OP Strokes (%)	Total Mortality & Stroke Morbidity (%)
Fields [1] (cooperative study)	1970	169	4.0	8	12.0
Thompson[2] (Baylor U.)	1970	293	1.4	2	3.4
De Weese[3] (U. Rochester)	1973	103	1.0	6	7.0
Sundt[4] (Mayo Clinic)	1975	321	0.6	3	3.6
Easton[5] (Illinois Community Hospitals)	1977	57	7.0	14	21.0
Stanford[6] (Ohio State University)	1978	154	0	1	1.0
Bernstein[7] (UC San Diego)	1983	456	1.5	5	6.5

Results

From the group of 100 patients, 2 expired, 1 suffered a stroke, and 7 had hematomas from carotid incisions. (Table 2).

TABLE 2.
Carotid endarterectomy complications of 100 consecutive cases retrospectively studied June 1981 to June 1983, Queen's Medical Center

	No. of Cases	No. of Deaths (% of Group)	No. of Strokes (% of Group)	No. of Hematomas (% of Group)
Risk Group 1 (No major risk)	40	0 (0)	0 (0)	4 (10%)
Risk Group 2 (angiographically defined increased risk)	8	0 (0)	0 (0)	1 (1%)
Risk Group 3 (Increased Medical Risk, e.g. angina, COPD, CHF, extreme HBP, with or without angiographic risks.)	41	1(2.5%)	1(2.5%)	2n*(4.9%)
Risk Group 4 (Neurologically unstable, with or without other risks.)	11	1 (9%)	0 (0)	0 (0)
Total cases	100	2 (2%)	1 (1%)	7* (7%)

* Wound hematomas left no permanent residue, although two required re-exploration and drainage of the wound.

* Assistant Professor, University of Hawaii School of Medicine.

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There were 40 patients with no special risk factors who were assigned to risk Group 1. No strokes or deaths occurred in this group, though 5 wound hematomas occurred.

Among the 8 patients with increased risk defined solely by angiography (Group 2), no strokes or deaths occurred. There was 1 hematoma among them.

A total of 41 patients had increased risk from concurrent medical problems (Group 3). One of these expired, a 72-year-old man with generalized atherosclerosis, diabetes mellitus, high blood pressure, congestive heart failure, and cardiac arrythmias. He had undergone right carotid endarterectomy, followed by aorta-femoral bypass in the same operation. His post-operative course was marked by acute renal failure, cardiac failure, and ventricular fibrillation before his death.

One stroke also occurred in the medically-defined risk group (Group 3). This patient was a 70-year-old man with no other risk factors, but who had an intraoperative stroke, which left a residual visual field defect. Two carotid wound hematomas also occurred.

Of the 11 patients of the high neurologic risk (Group 4), 1 expired. This 61-year-old man had complete occlusion of the contralateral carotid, with a neurological deficit of onset less than 24 hours prior to surgery, as well as generalized atherosclerosis, COPD, HBP, and s/p CABG (coronary artery bypass graft). The patient suffered brain death intraoperatively. Several days later he expired when disconnected from his respirator at the family's request.

There were no wound hematomas in the neurologically unstable risk group.

Discussion

The complication rate at Queen's Medical Center compares favorably with previous studies reported in the literature. The operative stroke rate is as low as any reported.[1-7] There is a slightly higher mortality rate than in the university center studies, but a lower mortality rate than the representative community hospitals[5] and cooperative venture show.[1] The mortality rate of 2% at Queen's Medical Center may reflect the large percentage (60%) of patients from high risk Groups 2, 3, and 4 who underwent the procedure. The overall mortality rate at Queen's Medical Center might be reduced by pre-selection of patients without such risk factors. However, the expected benefits for a high risk patient might sometimes outweigh the higher surgical risk; clinical judgment is indicated in each case. Surgical mortality might further be diminished by avoiding the risk of concurrent surgical procedures such as aorta-femoral bypass.

REFERENCES

1. Fields WS, et al.: Progress Report of Prognosis Following Surgery or Nonsurgical Treatment for TIA's and Carotid Artery Lesions. *JAMA* 211:1993-2003, 1970.
2. Thompson: Carotid Endarterectomy Cerebrovascular Insufficiency. Long-term results in 592 patients followed up to 13 years. *Ann. Surg.* 172:663-679, 1970.
3. DeWeese JA, Ros CG, Satran R, et al: Results of Carotid Endarterectomy for TIA's. Five years later. *Ann. Surg.* 178:258-264, 1973.
4. Sundt TA: Carotid Endarterectomy. Complications and Pre-operative Assessment of Risk. *Mayo. Clinic. Proc.* 50:301-306, June 1975.
5. Easton JD, Sherman DG: Stroke and Mortality Rate in Carotid Endarterectomy 228 Consecutive Operations. *Stroke* 8:565-568, 1977.
6. Stanford Jr., et al: Prevention of Stroke by Carotid Endarterectomy. *Surgery* 83:259-263, 1978.
7. Bernstein: Life Expectancy and Late Stroke Following Carotid Endarterectomy. *Ann. Surg.* July 1983, pages 80-86.
8. Hass WK: Caution Falling Rock Zone. An Analysis of the Medical-Surgical Management of the Threatened Stroke. *Proc. Inst. Med. Chicago* 33:80-84, 1980.

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Special thanks to Cheryl Takakuwa and Marge Harvey at Queen's Medical Records for expert assistance in compiling charts for review.



Ed: Douglas G. Massey, M.D.

Diagnostic Bronchoscopy.
Peter Stradling, M.D. pp. 160. Churchill Livingstone, New York, 4th ed. 1981. $63.

Bronchoscopy is indispensible in chest medicine and yet there are remarkably few suitable books for the beginner. The novice is particularly interested in having practical points on how to manipulate the bronchoscope and a pictorial atlas of normality and disease.

This volume meets these needs admirably. It reflects wide experience in both rigid and flexible bronchoscopy technique. The photographs of the bronchial lumen are superb, with line diagrams indicating where the tip of the bronchoscope is and detailed labeling of the abnormality. A minor criticism is the lack of photographs of the nasal anatomy for those choosing this route to insert the fiberscope.

In conclusion, this is the best text available for the budding bronchoscopist. Even the experienced will benefit from the naturalness of the photography.

D.G. Massey, M.D.
Professor of Medicine
John A. Burns School of Medicine
University of Hawaii

Handbook of Obstetrics and Gynecology.
By Ralph C. Benson, M.D. 804 pp. Lange Medical Publications, Los Altos, Calif. $13.

This is the eighth edition of this conveniently sized, ready-referenced text designed for students, first published in 1964. It has become a standard and is particularly useful for medical students. It is concise, lucid, and readable. The sections on fetal monitoring, intrauterine fetal evaluation, and complications of pregnancies have been updated. A chapter on delivery in the home or in an alternate birthing center describes in detail these techniques. Laparoscopy, sterilization, and abortion are well covered. This 1983 edition is a complete revision and update of prior editions. The book admirably achieves its goal. It supplies the essentials of diagnosis and treatment of obstetrical and gynecologic disorders. Current knowledge as to diagnosis treatment, and etiology / pathology is summarized. This Handbook is ideal for medical students and others with a general interest in the field and is acknowledged worldwide, with many foreign language editions.

William H. Hindle, M.D.

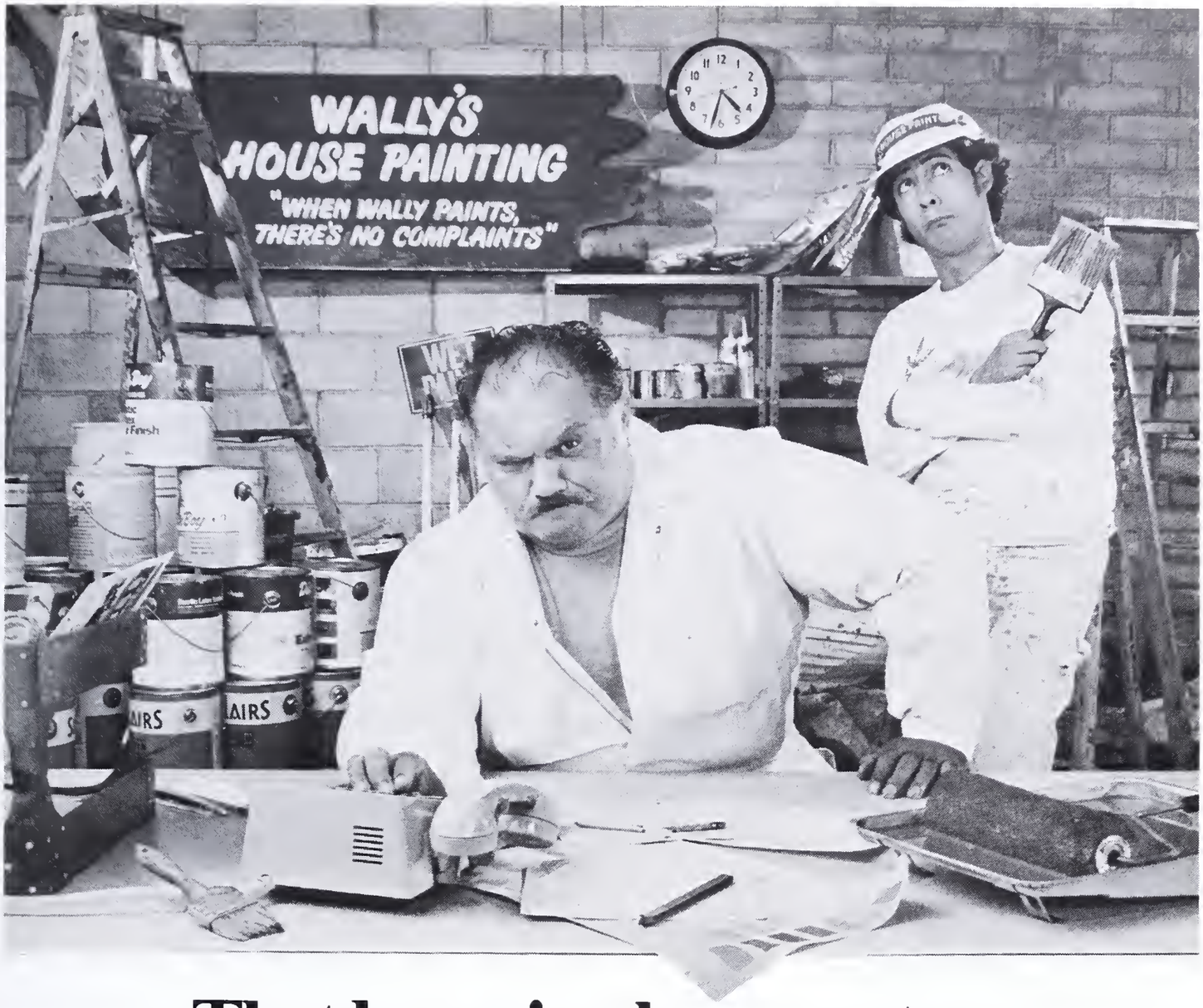
Current Medical Diagnosis and Treatment—1984.
M.A. Krupp M.D., M.J. Chatton M.D., eds. 1153 pp. Lange Medical Publications, Los Altos, Calif., $26.

A review of the 1983 edition has just been published and the 1984 edition is upon us. What has changed? It is now 21 pages longer, has gold instead of silver lettering on the cover, and the price has increased slightly. Inside, there is a new chapter on geriatrics and subtle changes in content elsewhere.

Although superbly up-to-date in general, there are areas that beg for alterations. With the recent surge of publications on pulmonary reference values, one should not be referred to the instrument manufacturer's tables.

Should you have purchased one of the editions of the past year or two, I would not recommend the most recent. Otherwise, it is an excellent purchase for those in general medicine or a specialty.

D.G. Massey, M.D.



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Hawaii Academy of Family Physicians' Newsletter

Don and Marlies Farrell

MEMBERSHIP NEWS: We welcome **Bill Ahuna** as a new Active member of the academy. Bill is a residency-trained family physician and practices at the new Kaiser Mililani Clinic with **Nate Wong.**

Reelected to Active membership after completing at least 150 hours of approved CME were **Robert Conrad** and **Rodman Miller.**

In Memoriam: **Dr. Satoru Matsuyama** died March 24, 1984.

COUNCIL ACTIONS: New HAFP President **John Aoki** appointed the following committee chairmen at the last council meeting: By-Laws — **Fred Reppun;** Healthcare Services — **Thomas Cahill;** Legislation-Government Affairs — **Bernard Chun;** Education — **John Aoki;** Mental Health — **Lincoln Luke;** Cancer — **Gwen Nishimura;** Public Health-Scientific Affairs — **Mona Bomgaars;** Hospital — **James Tsuji;** Membership and Membership Service — **Lily Ning;** Public Relations — **Robert Hollison;** Minority Affairs — **Nate Wong;** and Research — **Kenneth Steinweg.** John Aoki is confident that the committees under the various chairmen will be active this year and will proceed to establish policies and programs outlined during last year's Makaha planning meeting.

PHYSICIANS' SURVEY: 235 questionnaires are being sent out monthly to family physicians/general practitioners statewide in an effort to develop a comprehensive, accurate description of family/general practice in Hawaii. The 120 responses to the first questionnaire represented a response rate of more than 50%, implying substantial accuracy in the data collected. Here is a brief report on the first survey return:

In all, 65% of the respondents practice on Oahu, followed by 14.7% on Hawaii, 9.5% on Maui, 6.9% on Kauai, and 3.4% on Molokai/Lanai.

About 53% are in solo practice, 23.5% in groups of 4 or more, 12.2% in 2-to-3 physician groups, 7% are employed by HMOs, and 4% responded "other" such as military and government service.

Approximately 26% see between 76 and 100 patients per week, 20% see 101 to 125, and another 20% see between 126 and 150 patients a week, while 12% see more than 150 patients, and 21.6% see fewer than 75. Some 36% reported that

AMA Membership Award to HMA



At AMA's National Leadership Conference in Chicago, Dr. W.J. Lewis, AMA trustee, presented Dr. William Hindle, HMA president-elect, with a 1983 AMA Membership Award. This marks the third consecutive year that Hawaii Medical Association has exceeded its prior year AMA membership.

their patient load has decreased slightly over the past year; for 27% it remained the same; and 24.3% saw their patient load increase slightly; 7.2% had a great increase; while 5.4% reported a great decrease in their patient load.

About 92% see DSS (Medicaid) patients, and 74% accept new DSS patients. Regarding Medicare, 38.3% always accept assignment, 20.9% usually do, and 20% accept assignment occasionally; 12.2% do not accept Medicare assignment unless there is no other way to collect a bill, and 8.7% never accept assignment.

Some 78.9% participate with HMSA. Of these, 62.7% have always participated, 10.9% were "non-par" in the past, and 4.5% have been both "par" and "non-par" previously. Of the 21.8% "non-par" respondents, 11.8% have never participated, but 10% did so previously.

Encouraging payment at the time of service were 57.9%; 16.8% wait until insurance payments are received before asking for payment; 12.1% require payment at time of service; 8.4% do not ask for payment until staff can get around to billing, and 4.7% do not know when staff asks for payment. Using ICD9-CM diagnosis codes on insurance claims were 68.5%; 11.7% do not, and 19.8% do not know whether or not they use them. As of now, only 18.7% use CPT4 codes, 38.3% do not, and more than 40% are not familiar with them.

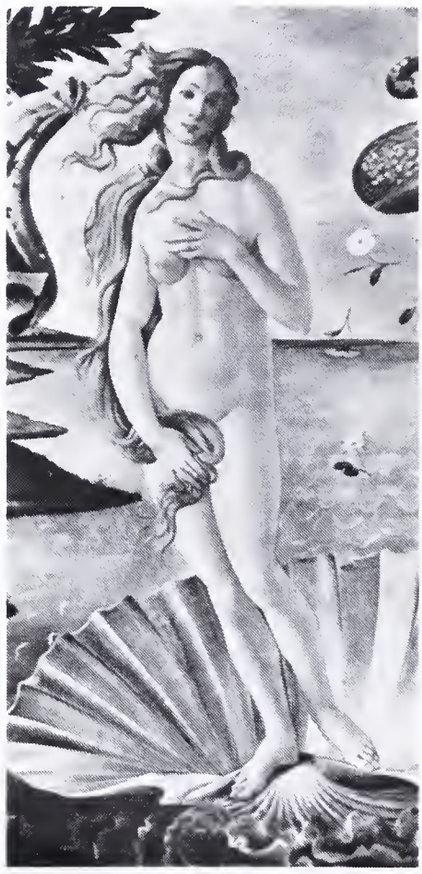
More than 90% of respondents have heard of TEFRA and DRGs, and more than 50% believe that their practices will be affected by them.

One interesting observation proving the difference existing between physicians in Hawaii and on the Mainland: the national patient visit average is 151 per week; for Hawaii it is 104. On Oahu the average is 99; the Neighbor Islands 114. Solo practitioners average 96 patient visits per week, those in small groups 108, and those in large groups and HMOs average 118 visits.

We will continue reporting subsequent survey results in the next few months. Please continue your support of this undertaking by returning your questionnaires promptly.

◊

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Editorial

Consultations: Part 3

In CONSULTATIONS: Part 2, published in the May 1984 issue of HMJ, the question of fees was mentioned as one of the items—and an important one—that needs to be discussed when a primary physician refers a patient, either for a consultation or for specialized definitive care, to another physician.

Fee-splitting has long been interdicted in our profession, as specified in the AMA's Principles of Medical Ethics, and for good reason. A most vivid example of the evils therein is depicted in A.J. Cronin's *"The Citadel,"* the book and, again recently, in an extended series on PBS-TV. Young Doctor Manson organized a rebellion in the Welsh mining company's hospital against the surgeon-chief who expected physicians on the staff to kick back to him a portion of each's salary.

The fact and even the appearance of fee-splitting is largely outside the patient's ken. Indeed, even if the patient knew or suspected that his payment for the surgery was "shared" by his physician who called in the surgeon, he would not know to what extent, and might well wonder whether the particular surgeon was chosen for his skill, or (unhappy thought!) because the patient's physician got a bigger kickback! It is to preserve the patient-doctor confidence, that this ethic stands so firmly and forever.

(As an aside, please consider the case of a patient who goes to his physician, a member of a large group, or an HMO. Might not that patient have more than somewhat of a suspicion that a referral to another physician within that group was elected because all the members of that group would share in the remuneration earned by that consultant, rather than for reasons of what's the very best for that patient? But . . . we can be confident and proud that within our profession, every modern well-trained physician is as good as the next!)

On the other hand, it is necessary and important that two or more physicians in on a case confer with each other AND make clear to that patient how his care is to be shared and therefore how the remuneration to each physician should be allocated.

If it is a consultation only, the referring physician and the patient should know that a consultant's fee will be charged—by the consultant, directly to the patient.

If the consultant continues to "look in" on the patient, while the primary physician manages the case after getting the consultant's opinion, advice and recommendations, should the latter

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make additional charges? Many consultants do not; they realize the primary physician is charging the patient a fee for each visit or procedure, and therefore do not want to "double dip" into the patient's pocketbook (insurance or not!).

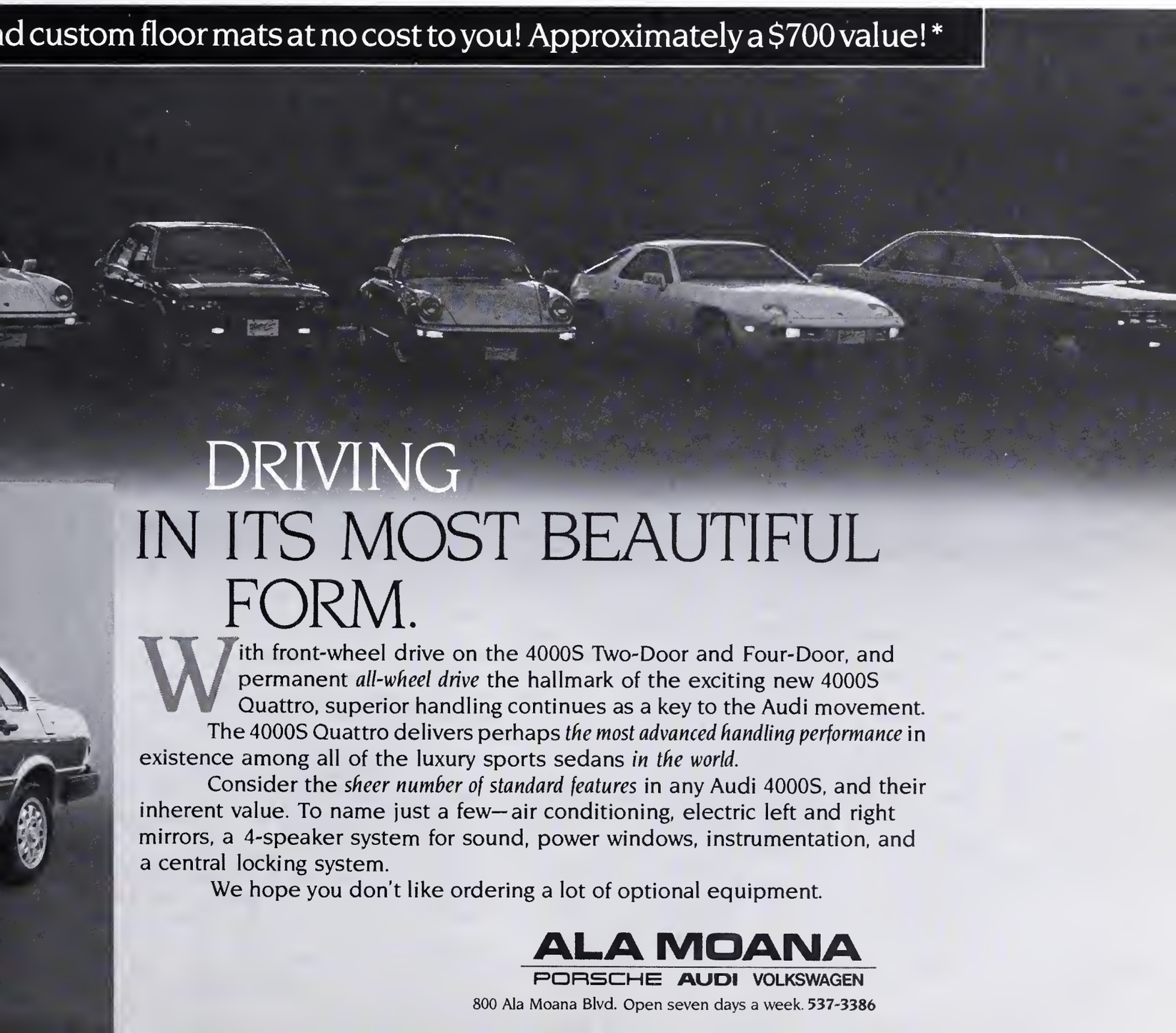
If the consultant is to "take over" the further management of the case and the patient's original physician merely "looks in" out of professional interest, friendship and even concern that his patient is being done right by, it is the consultant who should charge the fee for care and the referring doctor who should refrain from doing so. There are extenuating circumstances, of course: the patient may insist his PMD visit him also; the consultant may involve himself in a particular organ or procedure and expect the PMD to manage the whole patient or his other problems, etc. Such should be made clear to the patient.

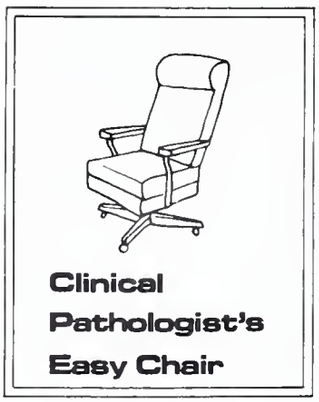
It is courteous and exemplary for that consultant to return the patient to the care of his primary physician just as soon as it is safe for the patient. (The consultant may well get many more referrals that way!) If two physicians share the management of a case wherein remuneration by a third party is on an indemnity basis, then it is only fair that each receive a share commensurate with the service performed. The patient is ultimately responsible for payment, but when an insurance carrier, through assignment or "participation," reimburses only one of the physicians, it is a deliberate and flagrant violation of the cornerstone of medical ethics: it is a mandate to "split the fee!"

The same applies when third-party payers are not involved. For example, if a primigravida has her prenatal care done over a period of months by her GP, and then ends up with a "C" section for a breech presentation, the two physicians should charge, each according to the service he has performed. In obstetrics, as in surgery, there is usually an overall charge for the procedure itself and it includes pre- and post-care. To "split" this is not breach of the ethic. The total fee to the patient should be the same as if one physician performed the total service. Therefore, the obstetrician's or surgeon's fee should be by agreement with the referring physician who is entitled to a part of it, and with full disclosure to the patient. A third-party payer should conform to this arrangement.

Most patients never complain. They are willing to pay the piper, grateful that the threat to health and life has been removed. They simply don't understand OUR Principles of Medical Ethics. But . . . they are often hurt—in their pocketbooks. The answer lies with us in the profession: To communicate clearly with each other when we work as a team, and to communicate with the patient in such a way that he or she will harbor no suspicion of collusion or a conflict of interest that would harm the almost-sacred patient-doctor relationship of trust.

J.I. Frederick Reppun, M.D.





Francis H. Fukunaga, M.D.

Cerebrospinal fluid—A re-examination

The examination of cerebrospinal fluid (CSF) is an invaluable tool in the evaluation of central nervous system (CNS) diseases. CSF is a dialysate of plasma produced by the choroid plexus. It leaves the ventricular system through the foramina in the roof of the fourth ventricle to bathe the CNS. The normal volume varies from a few ml in infants to 100 to 200 ml in adults. Most of the fluid is reabsorbed through the arachnoid granulations which are most numerous along the superior sagittal sinus. There is a selective permeability of plasma components by the choroid plexus/blood-brain barrier. Isotopic studies show no barrier to water and electrolytes but a significant barrier to proteins, resulting in lower concentrations in CSF than in plasma. The blood-brain barrier is not functionally mature at birth and allows the passage of some substances not normally passed in adults, such as bilirubin. Infections may alter this barrier to allow passage of more protein and antibiotics.

CSF COLLECTION is usually from the lumbar region with the patient lying on the side. The normal pressure is about 125 mm water (80 to 180) in adults and rises 150 to 300 mm with compression of the jugular veins (Queckenstedt test). Failure of the pressure to rise indicates a subarachnoid block or thrombosis of the lateral sinuses or jugular vein. The pressure is increased in meningitis, intracranial hemorrhage, abscess, tumors, cerebral thrombosis, uremia, and brain edema. It is decreased with subarachnoid block, shock, dehydration, and obstructive hydrocephalus.

The normal APPEARANCE of CSF is watery, clear, and colorless but pathologically can become cloudy, purulent, bloody, or xanthochromic. Cloudy fluids are due to increased numbers of cells; at least 400 to 500 cells per cubic mm are required to cause visible cloudiness. A bloody fluid may be due to intracranial hemorrhage or a traumatic tap. Red blood cell crenation occurs very rapidly and therefore cannot be used as a criterion to differentiate old blood from a bloody tap.[1] CSF should be collected in successive tubes and the presence of red blood cells is significant if the intensity of the color does not change and if a clot does not form.

The supernatant fluid will be xanthochromic due to altered hemoglobin if blood had been present for more than 4 hours. However, there are other causes of a light yellow CSF such as the serum present when there are more than 150,000 RBCs per cu mm, bilirubin, carotene, melanin, merthiolate, and an increase of CSF protein of more than 150 mg per dl—especially below a spinal canal obstruction. Xanthochromic fluid that clots on standing is due to a marked increase of proteins (Froin's syndrome.)

The CELL COUNT in normal adult CSF is usually less than 8 per cu mm but may be as high as 15 cells in infants under 3 months of age. The cell count must be done immediately, since lymphocytes do not survive more than 1 hour in vitro. Neutrophiles predominate in pyogenic meningitis while lymphocytes predominate in tuberculous and viral meningitis, encephalitis, CNS lues, and with some CNS tumors. The pleocytosis in partially treated pyogenic meningitis may be converted to lymphocytosis.

GLUCOSE concentration in CSF is about 60% of blood glucose, or 40 to 65 mg/dl in a normoglycemic individual. It is considered low at 40% or less of blood levels and implies a diffuse meningeal disease, such as pyogenic, tuberculous or fungal meningitis and meningeal carcinomatosis. CSF glucose increases as the blood glucose rises, but there is usually a lag period of 1 to 1½ hours.

The TOTAL PROTEIN concentration in normal lumbar spinal fluid is 15 to 45 mg per dl; 10 to 25 mg per dl in cisternal fluid, and 5 to 15 mg per dl in ventricular fluid. The total protein concentration is increased in pyogenic meningitis, viral encephalitis and meningitis, brain abscess, hemorrhage, cerebral thrombosis, spinal canal block, following convulsions, and in chronic alcoholism. The Pandy test is a qualitative turbidimetric test that becomes positive with an increase of CSF proteins. The colloidal gold reaction is an outmoded qualitative test for increased CSF globulins. Albumin has a stabilizing effect while the globulins, especially gamma, have a precipitating effect on a colloidal solution of gold chloride. Electrophoresis is a more specific method for the study of CSF proteins. The mean normal values vary but are approximately as follows: pre-albumin 4%; albumin 62% ± 11%; alpha-1 globulins 5.5% ± 2.5%; alpha-2 globulins 8% ± 4%; beta globulins 12% ± 3%; and gamma globulins 9% ± 4%. The variation of CSF albumin concentration tends to follow that of serum. The alpha-globulins rise in acute and chronic infections. The beta-globulins are normally higher in CSF than in serum and are believed to come from neural elements instead of the blood. They increase with brain tissue destruction as in cerebral infarctions and also in benign and malignant primary and secondary tumors. They are also increased in diabetic polyneuropathy, but are usually normal in alcoholic polyneuritis.[2]

The small amount of gamma globulins in normal CSF are derived from plasma.[3] They may be increased in multiple sclerosis, encephalitis, neurosyphilis, acute pyogenic meningitis, aseptic meningitis, fungal meningitis, diabetic polyneuritis, and Guillain-Barre syndrome. They are also increased in systemic diseases where the serum concentrations are greatly increased, but not always with serum paraproteinemia.[4] The major immunoglobulin in CSF is IgG and the light chains, kappa and lambda, are of about equal concentration in the normal CSF. The kappa/lambda ratio is about 1.0, similar to that in serum, but this ratio increases in inflammatory disorders of the CNS and in multiple sclerosis.[5] The IgG proteins of restricted mobility and heterogeneity that form discrete bands in the gamma range of agarose electrophoresis are called "oligoclonal bands." The presence of these oligoclonal bands is a sensitive and specific test for multiple sclerosis. They are found in 85 to 95% of patients with multiple sclerosis. A serum sample should be electrophoresed concurrently with the CSF to ensure the bands are not serum bands. The presence of these bands in other diseases makes the test unsuitable for the diagnosis of MS in the absence of clinical signs of the disease. These oligoclonal bands have also been seen in neurosyphilis, subacute sclerosing panencephalitis, Guillain-Barre syndrome, and toxoplasmosis.[6]

The determination of "myelin basic protein" by radioimmunoassay may be of value in the diagnosis and management of MS. It is one of 4 proteins in myelin and can be detected in the CSF of patients

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with demyelinating diseases such as active MS.[7] It is a good indicator of demyelination but does not specify the cause. Other causes include amyotrophic lateral sclerosis, Alzheimer's disease, some carcinomas, strokes, vasculitis, diabetes, meningoencephalitis, and head injuries.

Tissue destruction and subclinical hemorrhage in SLE with transient neurologic problems sometimes is manifested by erythrophagia and hemosiderophagia by mononuclear phagocytes.[8]

The determination of serum enzyme activity is helpful in assessing tissue damage in various illnesses such as myocardial infarction, hepatitis, and pancreatitis, but is of limited value in neurological disorders. There is poor correlation between serum and CSF enzyme activity and the determination of CSF enzyme activity provides little help in the differential diagnosis of CNS disorders.

The CSF CHLORIDE ion concentration is normally 720 to 750 mg per dl, but its determination is useless since it is dependent upon the serum chloride levels. It was thought to be a useful test in tuberculous meningitis, where it may drop below 600 mg per dl, but this decrease is usually due to the hypochloremia secondary to hyperemesis.

LACTIC ACID levels in CSF are greatly elevated in patients with bacterial, fungal, and tuberculous meningitis, but are usually less than 4 mEq/L in viral meningitis and the non-infectious meningitides.[9] Normals are below 9 mM per L by the DuPont ACA method.[10] CSF lactate correlates with CSF neutrophile count, but the cell count is more sensitive and specific for bacterial meningitis.[11]

The gram stain and culture is still the basis for comparing other diagnostic methods in the detection of bacterial meningitis. The pathogen in pyogenic meningitis is usually age-related. Neonatal meningitis is usually due to a Gram-negative bacillus. Older individuals often are infected by meningococcus or pneumococcus, while children from age 1 month to 6 years are also frequently infected by Hemophilus influenza, type b. pneumococcus is a frequent pathogen in the elderly. Partial treatment of pyogenic meningitis results in CSF findings characteristic of viral meningitis, but some cases may show pleocytosis with negative cultures, and a few may show only glucose and protein abnormalities. The Gram stains and cultures are negative in 10 to 30% of the cases, especially when antibiotic therapy had begun. If the initial CSF examination is normal but the clinical symptoms are compatible with meningitis, a repeat examination should be done within 24 hours since the second examination frequently will show abnormalities.[12] The gram stain is of no value in normocellular CSF, and also has been consistently negative with counts of less than 100 per cubic mm. When the white cell count was more than 100 per cubic mm, there were 9.5% positive cultures and 7.8% positive Gram stains.[13] The gram stain was positive in 81% of cases with a positive culture.

Counterimmunoelectrophoresis (CIE) is useful in the diagnosis of meningitis by detection of the antigens in CSF.[14] It is more sensitive than a Gram stain and more rapid than cultures. The antigens can be detected in patients treated with antibiotics where recovery of the organism may be impossible. It is most useful in the community-acquired type of meningitis: pneumococcus, H. influenza, and meningococcus, but may also be helpful in the hospital-acquired types due to Staph. aureus, Pseudomonas aeruginosa, and Klebsiella and in neonatal meningitis due to E. coli Kl, and group B streptococci. The minimal concentration of organisms before enough antigen is released is usually 100,000 per ml. Latex agglutination to detect antigenic components of microorganisms is simple and rapid but limited to only a few organisms such as cryptococcus, H. influenza, group B strep, and meningococcus.

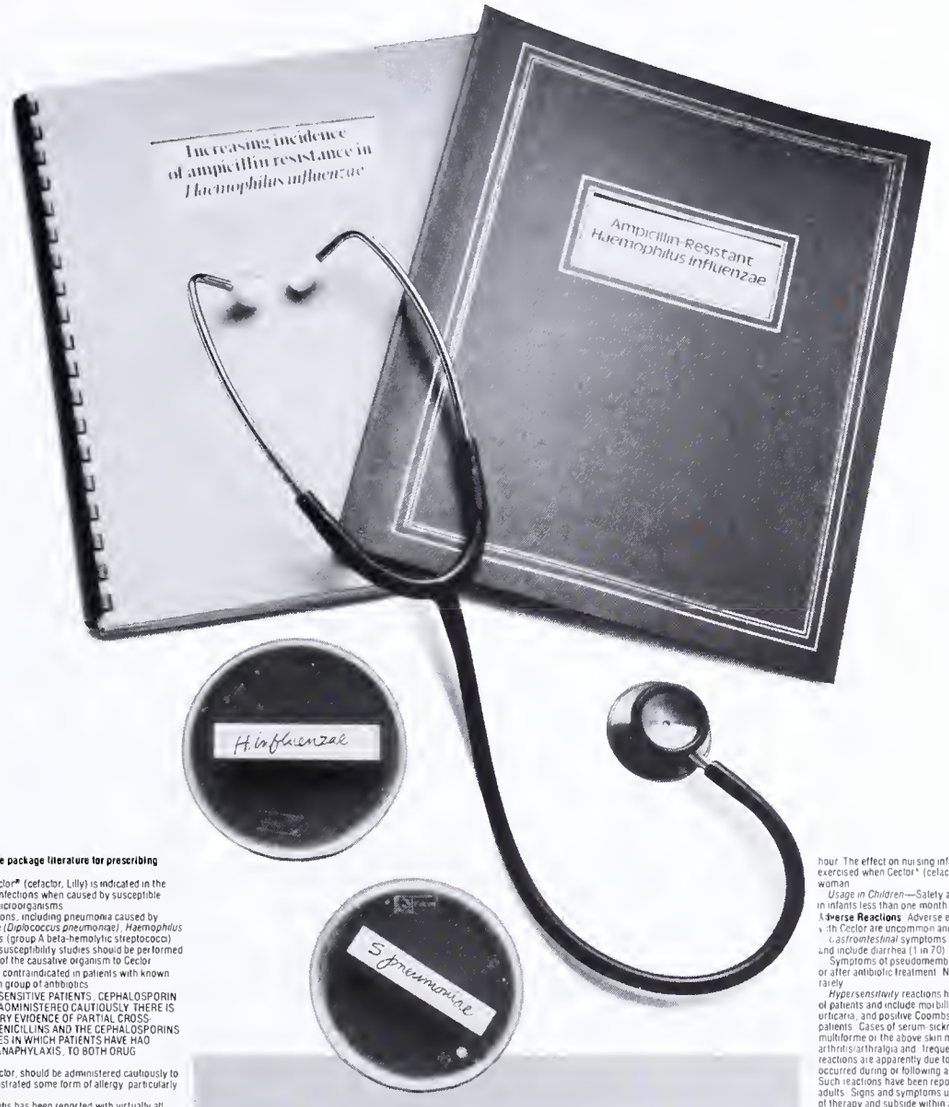
ELISA (enzyme-linked immunosorbent assay) is a highly sensitive and specific technique for detection of bacterial antigens. Major disadvantages are the long incubation and washing times required, approximately 3 to 6 hours or longer.[15]

Alcohol is not normally found in the CSF, but is seen with cryptococcal meningitis.[16] A persistently low CSF sugar may be due to meningeal carcinomatosis, sarcoidosis, cryptococcal or other fungal meningitis. Yeasts cause the fermentative breakdown of glucose to alcohol and the assay of ethanol is helpful in differentiating cryptococcosis, in the absence of recognizable organisms, from other causes of low CSF glucose, such as pyogenic meningitis, subarachnoid hemorrhage, meningeal carcinomatosis, and hypoglycemia.

Meningeal carcinomatosis is usually secondary to a primary lung cancer. If the primary is from some other source, the lungs usually are also involved by metastatic cancer. The combined use of several biochemical markers may sometimes be helpful in differentiating meningeal carcinomatosis from other CNS diseases. The beta-glucuronidase activity, CEA concentration, and beta-subunit HCG in CSF may be increased with tumors.[17]

The cytologic examination of CSF has greatly improved with the use of the cytocentrifuge.[18] It provides distortion-free calls and a higher recovery rate of the cells in contrast to the earlier methods of concentration and membrane filtration. The cells are concentrated within a small area from a small sample. The normal smear after cytocentrifugation will show 65 to 80% lymphocytes, 10 to 30% monocytes, and there may be an occasional red blood cell. Inflammatory reactions show increased numbers of lymphocytes and

An added complication... in the treatment of bacterial bronchitis*



Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

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Brief Summary Consult the package literature for prescribing information

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins), therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: *General Precautions*—If an allergic reaction to Ceclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers—Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one hour. The effect on nursing infants is not known. Caution should be exercised when Ceclor* (cefaclor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and frequently fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[051782R]

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.

Note: Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

References

1. Antimicrob. Agents Chemother., *8*: 91, 1975
2. Antimicrob. Agents Chemother., *11*: 470, 1977
3. Antimicrob. Agents Chemother., *13*: 584, 1978
4. Antimicrob. Agents Chemother., *12*: 490, 1977
5. Current Chemotherapy (edited by W. Siegenthaler and R. Luthy), II 880. Washington, D.C.: American Society for Microbiology, 1978
6. Antimicrob. Agents Chemother., *13*: 861, 1978
7. Data on file, Eli Lilly and Company.
8. Principles and Practice of Infectious Diseases (edited by G.L. Mandell, R.G. Douglas, Jr., and J.E. Bennett), p. 487. New York: John Wiley & Sons, 1979.

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monocytes, but most cases also show various combinations of neutrophiles, reactive lymphocytes, eosinophiles, plasma cells, and histiocytes. The cytocentrifuge is very useful for recovery of metastatic tumor cells, but is of limited value for primary CNS tumors. Except for medulloblastomas and pinealomas, primary CNS tumors rarely exfoliate.

REFERENCES

1. Mauer AM: Crenated red cells in spinal fluid, *Amer J Dis Child* 108:451, 1964.
2. Greenhouse AH & Speck LB: The electrophoresis of spinal fluid proteins, *Amer. J. Med. Sci.* 248:333-340, 1964.
3. Hart RG & Sherman DG: The diagnosis of multiple sclerosis, *JAMA* 247:498-503, 1982.
4. Weiss AH, et al.: Cerebrospinal fluid paraproteins in multiple myeloma, *J. Lab. Clin. Med.* 66:280-293, 1965.
5. Eickhoff K & Heipertz R: Determination of immunoglobulin content of CSF based on light chain characteristics, *Ann. Neurol.* 3:509-512, 1978.
6. Gerson B & Orr JM: Oligoclonal bands and quantitation of IgG in CSF as indicators of multiple sclerosis, *Amer. J. Clin. Path.* 73:87-91, 1980.
7. Cohen SR, et al.: Radioimmunoassay of myelin basic protein in spinal fluid: An index of active demyelination, *New Eng. J. Med.* 295:1455-1457, 1976.
8. Jaeckle KA: CSF Cytomorphology: SLE with Anton's Syndrome, *Acta. Cytologica.* 26:532-536, 1982.
9. Brooke I, et al.: Measurement of lactic acid in CSF of patients with infections of the CNS, *J. Infect. Dis.* 137:384-390, 1978.
10. Herold DA, et al.: Lactic acid in cerebrospinal fluid: Evaluation and application of an automated enzymatic assay, *Ann. Clin. & Lab. Sci.* 11:416-421, 1981.
11. Rutledge J, et al.: Is the CSF lactate measurement useful in the management of children with suspected bacterial meningitis? *J. Ped.* 98:20-24, 1981.
12. Onorato IM, et al.: "Normal" CSF in bacterial meningitis, *JAMA* 244:1469-1471, 1980.
13. Wadke M, et al.: Correlation of gram's stain, cellular response and bacterial culture of cerebrospinal fluid, *Lab. Med.* 11:680-682, 1980.
14. Feldman WE: Relation of concentration of bacteria and bacterial antigens in cerebrospinal fluid in prognosis in patients with bacterial meningitis, *New Eng. J. Med.* 296:433-435, 1977.
15. Wasilauskas BL & Hampton KD: Determination of bacterial meningitis: A retrospective study of 80 CSF specimens evaluated by four in vitro methods, *J. Clin. Microbiol.* 16:531-535, 1982.
16. Dawson DM & Taghavy A: A test for spinal fluid alcohol in Torula meningitis, *New Eng. J. Med.* 269:1424-1425, 1963.
17. Fleisher M: Spinal fluid markers permit diagnosis, *Clin. Chem. News.* 4(10):8, 1978.
18. Choi HH & Anderson PJ: Diagnostic cytology of cerebrospinal fluid by the cytocentrifuge methods, *Amer. J. Clin. Path.* 72:931-943, 1979.



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Military Assistance to Safety and Traffic (MAST) Helicopter Medical Evaluation (MEDEVAC)

Utilization on the Island of Oahu—July 1, 1974, and December 31, 1978—A 4½-Year Study

Susan Arkoff;* Michael Penick, MICT;** Chris Zbiciak, MICT;** and J.K Sims, M.D.,*** Honolulu.

• *Aerial flight was first accomplished on December 17, 1903, by Wilbur and Orville Wright at Kitty Hawk, N.C. Subsequent to the flight of the fixed wing aircraft, the technology of the fixed wing aircraft markedly advanced and the rotary wing helicopter was developed. More recently, fixed winged aircraft and rotary winged helicopters were utilized for medical transportation of the ill and injured, with these medical evacuation systems (MEDEVAC) proving themselves in the Vietnam War.*

Fixed winged aircraft and helicopters have been described in their MEDEVAC roles,[1-5] and standards for helicopter MEDEVAC[3] and fixed winged aircraft MEDEVAC[6-8] have been described. Both of these systems have been operational for several years; however, only the helicopter MEDEVAC program in Hawaii will be reviewed herein.

History

On September 16, 1974, the United States Department of Defense and the State of Hawaii entered into an agreement involving the 25th Infantry Division (68th Medical Detachment) of the U.S. Army Support Command in Hawaii, the Hawaii MAST Interagency Coordinating Committee, and the City & County of Honolulu, pursuant to Public Law 93-155. The program was an interagency effort among the United States Department of Transportation (DOT), the U.S. Department of Health, Education, and Welfare (DHEW), and the Department of Defense, wherein the entire Island of Oahu (i.e., the City & County of Honolulu) would be provided "emergency evacuation military ambulances" and would "respond to serious medical emergencies, evacuation of accident victims, urgent inter-hospital transfers, and movement of whole blood and human organs, and other medical material."[9]

The Hawaii Medical Association-Emergency Medical Services Program (HMA-EMSP) designated this project as the "MAST MEDEVAC Research Project" for July 1, 1974, to December 31, 1978. This project was to consist of the following:

1. Identification of all MAST MEDEVAC cases transpiring between 7/1/74 and 12/31/78;
2. Survival/death outcomes (at scene, ambulance, helicopter, Emergency Department [ED], and hospital) for all MAST MEDEVAC cases in 1. above;
3. Delineation of the high-risk cardiac, trauma, and cardio-arrest (CPA) MAST MEDEVAC cases in 1. and 2. above;
4. Statistical comparison of MAST MEDEVAC transported case outcomes by calendar year for:
 - high-risk cardiac cases
 - high-risk trauma cases
 - CPA cases
5. Statistical comparison of MAST MEDEVAC cases versus all-Oahu civilian ambulance service cases as to:
 a. general resident population (i.e., number per 100,000 Oahu general resident population)
 b. ambulance population incidence (i.e., number per 100,000 Oahu calls for ground ambulance)
 c. a. and b. for high-risk cardiac, trauma, and CPA cases.
6. Concordance of at-scene diagnosis with emergency department diagnosis, case by case.
7. As an optional project, scene-to-hospital ED transport time for air (MAST MEDEVAC) versus ground ambulance—a statistical comparison. (Not performed.)
8. As an optional project, patient outcomes for the capitol grounds versus the Queen's Medical Center helipads. (Not performed.)

Demography

The land mass of the City & County of Honolulu is the Island of Oahu in the State of Hawaii, U.S.A. The estimated total resident population for Oahu during 1974-1978 was as follows:[11]

1974 — 697,445
1975 — 705,382
1976 — 713,533
1977 — 717,566
1978 — 721,944

The emergency ambulance services on Oahu which have the capability to handle MAST MEDEVAC cases pre- and/or post-MAST included the following:

- City & County of Honolulu Department of Health ambulance services (9 units)
- City & County of Honolulu Department of Health contract ambulance services (variously, Pacific Ambulance Co., Kahuku Ambulance Services, Physicians Ambulance Service, et al.)
- U.S. military ambulance services.

Other sources of MAST MEDEVAC cases included the various hospitals on Oahu (e.g., inter-facility transfers), the Honolulu Police Department, the Honolulu Fire Department, and the ocean lifeguards of the City & County of Honolulu Department of Parks and Recreation. For deaths within the domain of the City & County of Honolulu Department of Medical Examiner, a separate compilation was performed, as was compilation for all pediatric cases going to the Kapiolani-Children's Medical Center (formerly, Children's Hospital). In actuality, MAST MEDEVAC cases could come geographically from any accessible location on the Island of Oahu.

From the Hawaii Medical Association Emergency Medical Services Program (HMA-EMSP). This research project was supported by a grant-in-aid to the HMA-EMS Program from the State of Hawaii Legislature under the State Comprehensive Emergency Medical Services System (EMSS) Act 148 (enacted June 1, 1978, in the State of Hawaii).

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Method

A "MAST MEDEVAC Research Project" data collection form was created in order to collect data on the following:

- Name of patient
- Assigned EMS number (MAST MEDEVAC case number)
- Pre-MAST report form number (e.g., ambulance report form number)
- MAST helicopter case number
- Receiving ambulance report form number
- Receiving hospital emergency department (ED) chart number
- Admitting hospital chart number
- Medical examiner case number
- Age
- Sex
- Date of incident (emergency)
- Site of incident
- Person/agency activating MAST MEDEVAC
- Receiving site (MAST MEDEVAC helipad disposition site)
- Medical diagnoses
 - —Pre-EMSS
 - —Pre-MAST
 - —MAST
 - —Post-MAST
 - —ED
 - —Hospital
 - —Medical examiner
- Disposition
 - —Discharged from ED alive (yes/no)?
 - —Discharged dead to medical examiner?
 - —Admitted to hospital (yes/no)?
 - —To emergency surgery (yes/no)?
 - —Expired in operating room (yes/no)?
 - —Post-op admission to hospital (yes/no)?
 - —Expired in hospital (yes/no)?
 - —Discharged from hospital alive (yes/no)
- Providers of emergency care
 - —Pre-EMSS
 - —Pre-MAST
 - —MAST
 - —Post-MAST
 - —Emergency department
 - —Hospital
- Complications (this section was deleted)
- Medical diagnosis
 - —Pre-EMSS
 - —Pre-MAST
 - —MAST
 - —Post-MAST
 - —Emergency department
 - —Hospital
- Vital signs, time duration

-N.B., this section was deleted for technical reasons (clocks not synchronized).

The primary records evaluated in order to obtain the data were the ambulance report forms, MAST MEDEVAC log, emergency department records, and hospital in-patient records. The primary initial difficulty was in the fact that there were no names listed in the MAST MEDEVAC log and no agencies maintained a log of the MAST MEDEVAC cases; however, a surprising number of cases were subsequently identified.

Results

On the 736 MAST MEDEVAC missions, involving 958 persons, which occurred on the Island of Oahu between July 1, 1974 (a few months before the MAST program started), and December 31, 1978, names were obtained and data collected on 502 persons. There was only one case in 1974.

Objective 1

There were 736 MAST MEDEVAC missions between 7/1/74 and 12/31/78, for which data were collected on 502 persons, or 52% of the total of 958 persons.

Objective 2

Of the 958 cases, 68 expired, no less than a 7% mortality rate. Of these, 2 (3%) expired at the scene, 29 expired in the emergency department (43%), and 37 expired in the hospital (54%).

Objective 3

For the 7/1/74-12/31/78 Oahu MAST MEDEVAC missions, there were no less than 160 high-risk trauma cases (by criteria),[12] 21 high-risk cardiac cases (by criteria),[13] and 38 cardiopulmonary arrest (CPA) cases.

TABLE 1.
Comparative high risk EMSS patient outcomes on Oahu:
MAST MEDEVAC vs. ground ambulance, 1975-1978
High risk trauma

Year	MAST MEDEVAC			Ground ambulance	
	• No. Cases	• %Survival	• Unknown	No. Cases	% Survival
1975	25	79%	21%	262	80%
1976	43	93%	7%	210	78%
1977	68	86%	14%	198	74%
1978	24	86%	14%	216	70%
Totals	160				



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Objective 4

A statistical comparison of MAST MEDEVAC transported cases outcomes by calendar year (1975, 1976, 1977, 1978) versus all-Oahu civilian ambulance transported victim outcomes,[14] for the following categories was made:

- high-risk trauma cases
- high-risk cardiac cases
- cardiopulmonary arrest cases.

The comparisons are provided in tables 1, 2, and 3; no formal statistical determinations beyond percentages can be made, since the data are from 2 distinct and separate studies. The outcomes on a variable percentage were unknown; the survivals percentages were calculated only on the cases for whom the outcomes were known in tables 1, 2, and 3.

Objective 5

A statistical comparison of the MAST MEDEVAC cases versus all-Oahu civilian ambulances cases was made as to:

a. general population incidence (i.e., numbers per 100,000 Oahu resident population)
b. ambulance population incidence (i.e., number per 100,000 Oahu calls for ground ambulance)
c. a. and b. for high-risk cardiac/trauma and CPA cases.

Although MAST MEDEVAC misions totaled 736, the caseload was 958 persons (7/1/74-12/31/78); the patient load was used in the tabulations, rather than the missions. An average population of 714,606 was used to reflect the average population during 1975-1978; the average of 957 during years 1975-1978 was used to reflect the average number cases per year (239.5 was the average MAST MEDEVAC caseload).

a. The MAST MEDEVAC caseload on Oahu between 1975-1978 averaged 33.5 cases per 100,000 total Hawaii population (excluding tourists).
b. The MAST MEDEVAC caseload on Oahu between 1975-1978 averaged 974 cases per 100,000 ambulance incident population *(N.B.,* the average ambulance incident population, including tourists, was 24,588 between the years 1975-1978;[14] the average of 239.5 MAST MEDEVAC cases per year was used in the calculation).
c. The high-risk cardiac, high-risk trauma, and cardiopulmonary (CPA) case incidence tallies are presented in Table 4, after using the average for each category for the average of four years (1975-1978).

Objective 6

Each of the cases was evaluated as to the concordance of the at-scene diagnosis with the emergency department diagnosis, there being exact diagnostic concordance in 43 cases, close concordance in 17 cases, and significantly incomplete data for the remainder of the 958 cases. The data in


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TABLE 2.
Comparative high risk Oahu EMSS patient outcomes:
MAST MEDEVAC vs. ground ambulance 1975-1978
High risk cardiac

Year	MAST MEDEVAC			Ground ambulance	
	• No. Cases	• % Survival	• Unknown	No. Cases	% Survival
1975	1	—	100%	NA	NA
1976	9	75%	11%	165	78%
1977	10	78%	10%	180	76%
1978	1	100%	—	282	76%
Totals	21				

TABLE 3.
Comparative high risk Oahu EMSS patient outcomes:
MAST MEDEVAC vs. ground ambulance 1975-1978
Cardiopulmonary arrest (CPA) cases

Year	MAST MEDEVAC			Ground ambulance	
	• No. Cases	• % Survival	• Unknown	No. Cases	% Survival
1975	4	0%	50%	146	11%
1976	21	30%	52%	175	12%
1977	8	25%	50%	180	6%
1978	5	75%	20%	206	5%
Totals	38				

TABLE 4.
High risk trauma, high risk cardiac, and cardiopulmonary
arrest incidences on Oahu for MAST MEDEVAC, averaged, 1975-1978

High risk trauma

Total Oahu population incidence		Ambulance caseload incidence
$\frac{40}{714,606}$	= 5.60/100,000 population*	$\frac{40}{24,588}$ = 163/100,000** (ambulance incidents)

High risk cardiac

$\frac{5}{714,606}$	= 0.70/100,000 population*	$\frac{5}{24,588}$ = 20.3/100,000** (ambulance incidents)

Cardiopulmonary arrests (CPA)

$\frac{9.5}{714,606}$	= 1.33/100,000 population*	$\frac{9.5}{24,588}$ = 38.6/100,000** (ambulance incidents)

*excludes tourists
**includes tourists

this section is too incomplete to allow any evaluation.

Discussion and Conclusion

Specific aspects of the U.S. Department of Defense and State of Hawaii Military Assistance to Safety and Traffic (MAST) Medical Evacuation (MEDEVAC) program on the Island of Oahu (i.e., City & County of Honolulu) were evaluated for the time period 7/1/74-12/31/78.

There were 736 MAST MEDEVAC missions, involving 958 victims in the 4½-year evaluation period, although there was only 1 case during the first 6 months. Of the 502 cases which could be evaluated, there were 68 (14% of 502) expirations, usually from diseases or injuries of significant magnitude. Of the 958 cases total, the mortality percent was no less than 7%. A total of 160 high-risk trauma cases were identified; for these there was an average survival of 86%. High-risk cardiac cases identified numbered 21 with an average survival of 84% (although N=21 is small statistically). Of 38 cardiopulmonary arrest cases identified, there was an amazing average survival of 33%. The incidence of these disorders is shown in Table 4 as a summary. The at-scene and emergency department diagnostic concordance could not be evaluated in this study.

The MAST MEDEVAC program on Oahu was possibly comparable to that of the ground ambulance services on Oahu between July 1, 1974, and December 31, 1978. It may be that rapid transport of a victim to a definitive medical facility provides more favorable outcome.

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REFERENCES

1. Vuturo AF, Jensen RT: Considerations for planning and implementing a flying health service: Experiences in the Ryukyu Islands. *Military Medicine* 136:736-739, 1971.
2. Cowan W: Taking a whirl at life. *Emergency Product News* 61-62, 1977.
3. Hill MP, Hill SL: Helicopter air ambulance in a rural community. *Emergency Medical Services* 8:43-46, 1979.
4. Johnson JW: Patient transfer by helicopter in peacetime environments. *U.S. Navy Medicine* 62:18-23, 1973.
5. McCleary EH: Medicine on the wing. *American Medical News* pp 9-10, June 20, 1977.
6. Welch B: Some considerations before using the aerial ambulance. *JACEP* 6:155-157, 1977.
7. Welch B: Air Ambulance Standards. *Emergency* 10:39-41, 1978.
8. Robinson D: Needed: A national safety code for air ambulances. *Parade* pp 4-5, April 16, 1978.
9. Letter of agreement, dated September 16, 1974, among Major General D.P. Bolton, Governor George Ariyoshi, and Mayor Frank Fasi.
10. Armstrong RW (ed): *Atlas of Hawaii.* University Press of Hawaii, Honolulu, Hawaii, 1973, pp 9-27, 200.
11. Census Statistical Area Committee: *Population and Housing Unit Estimates for Oahu Census Tracts, 1970-1979,* Report #CTC-44. State of Hawaii, PO Box 2359, Honolulu, Hawaii 96804, May 6, 1980.
12. Sims JK: *Advanced Trauma Life Support-A Laboratory Syllabus for Emergency Physicians.* HMS-EMS Program, Honolulu, Hawaii, 1977, Table 1 of Introduction.
13. Sims JK, Wong, LMF, Lee JB, et al: A limited review of high-risk cardiac and high-risk trauma cases transported by two MICT (Paramedic) ambulance units to the Queen's Medical Center between January 1, 1974, and December 31, 1974. HMA-EMA Program, Honolulu, 1977.
14. McCall CH Jr, Philben CG, Gilje JZ: Selected high-risk trauma, cardiac and cardiopulmonary arrest patient outcomes on the Island of Oahu, 1969-1970 (Pre-EMSS) versus 1974-1978 (EMSS). August, 1979 document from M/M Associates to the HMA-EMS Program.

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Salt Water Drowning

Linda L. Wong, B.S., and J. Judson McNamara, M.D., Honolulu

• *Salt water drowning is a common event in Hawaii. The present study includes 154 patients hospitalized over a 10-year period for drowning. Demographic and other data were abstracted from the records. Of 154 victims, 107 were men, 67% under age 30, 37% Caucasian, and 28% Oriental. Occurring in May, June, and July were 46% of the drownings. Many had initial neurological problems, but most were normal on admission to hospital. Eight suffered permanent neurological deficit, 5 of whom subsequently died. The other major clinical problem, pulmonary insufficiency, was frequently manifest at admission, and 29% had residual respiratory problems at 24 hours. In contrast, 93% of all patients with any neurological deficit were totally cleared by 24 hours. It is clear that neurological injury is the major untreatable and most serious consequence of near-drowning.*

Drowning occurs in as many as 70,000 immersion accidents[1] resulting in more than 8,000 fatalities each year in the United States.[2] Hawaii's favorable climate throughout the year and excellent opportunities for swimming, snorkeling, diving, and surfing make a study on salt water drowning especially appropriate.

The pathophysiology of drowning or near-drowning includes hypoxemia, hypercarbia, and acidosis.[3] Metabolic acidosis and electrolyte imbalance may also follow if salt water is aspirated during the immersion.

Methods

In this study, information was gathered on 154 patients who were admitted between 1970 and 1980 for salt water drowning or near-drowning. The following 5 medical centers on the Island of Oahu in Hawaii participated in the study: Kapiolani Children's Medical Center, Kuakini Medical Center, Queen's Medical Center, St. Francis Hospital, and Straub Hospital & Clinic. Demographic data, relevant history, laboratory data, chest X-rays, blood gases, and vital signs were noted. Patients were assessed neurologically by: levels of consciousness at various times, neurological exam, consultation reports, and EEG. Respiratory function was also assessed during the course of hospitalization.

Results

Data collected demonstrate that drowning victims were predominantly male (107 of 154), young (67% were under the age of 30) and of Caucasian (37%) or Asian (28%) descent. Most drowning incidents occurred during the months of May, June, or July (45.5%) and were accidental or swimming-related (36.4% and 34.4%, respectively). Patients tended to have no significant history relating to the drowning. A history of epilepsy, alcoholism, or a known heart disease was elicited in 24 of the patients.

Laboratory data demonstrated small but significant serum electrolyte changes from admission to discharge. Sodium and chloride decreased (145.0 and 109.1 to 141.4 mEq/L and 103.6 mEq/L, both $p < 0.001$) while potassium and bicarbonate increased (3.9 and 21.9 to 4.2 mEq/L and 24.7 mEq/L, $p < 0.025$ and $p < 0.001$). Nevertheless, all values are in the normal range. Hematocrit and hemoglobin levels were not significantly changed and remained in the normal range at all times. The white blood cell count remained elevated to a small extent (11.8×10^3 at admission and 12.8×10^3 at discharge). Arterial blood gas results were in general not significantly abnormal for the group as a whole except when immersion was prolonged and severe aspiration had occurred.

A more specific evaluation of sodium levels and hematocrit demonstrated that out of 112 patients in whom sodium was measured, 95 had normal sodium levels and 17 were significantly hypernatremic. Normal hematocrits were found in 111 patients, while 26 were abnormally low and 2 were higher than normal.

Discussion

Although many patients were stated to be unconscious at the scene, more patients experienced respiratory problems at the time of admission. Most neurological problems had cleared by admission. By 24 hours, 93% of the patients in this study had no neurological deficit, whereas only 71% were free of respiratory problems. Eight patients had a prolonged neurological deficiency (longer than 1 week), usually in the form of a fixed deficit such as paralysis. All of the 5 patients who expired during hospitalization were judged to have died because of neurological problems.

Hoff claims that "pulmonary insufficiency and CNS dysfunction" are the two major problems facing near-drowning victims. He reports that frequently patients are asymptomatic initially, but develop respiratory inadequency within the next 24 hours.[1] Levin, in his review of a number of drowning studies, stresses the importance of neurological problems as the major complication of the drowning victim.[4]

Pearn et al., in reviewing several studies on neurological consequences of drowning, note that a child surviving a near-drowning incident has a greater than 90% chance of being neurologically normal. This is consistent with the present study, since only 3 of the 151 patients who survived had a fixed deficit. Pearn et al. also believe that neurological status is

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related to respiratory function, as the neurological outcome is predicted by the "time of first spontaneous gasp" after immersion.[5]

In conclusion, electrolyte imbalance and changes in the hematocrit and hemoglobin are secondary alterations experienced in drowning, and are usually not severe nor difficult to manage. More significant consequences include respiratory difficulty but this is rarely fatal in patients who reach the hospital alive. Fewer patients experience neurological problems, but those who do tend to be more impaired and more likely to suffer permanent morbidity if not death.

REFERENCES

1. Caudle JT: Emergency nursing of near-drowning victims. *Am. J. Nurs.* 76: 922-3 June 1976.
2. Hoff BH: Multisystem failure: A review with special reference to drowning. *Crit. Care Med.* 7:310-20 July 1979.
3. Bennett RM: Drowning and near-drowning: Etiology and pathophysiology. *Am. J. Nurs.* 76:919-21 June 1976.
4. Levin DL: Near-drowning. *Crit. Care Med.* 8:590-5 October 1980.
5. Pearn JH, Bard RD, Yamaoka R: Neurologic sequelae after childhood near-drowning: A total population study from Hawaii. *Pediatrics* 64: 187-91 August 1979.

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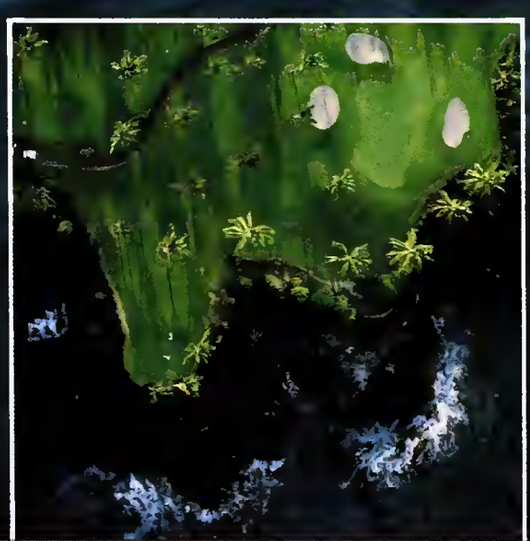
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JULY 1984
VOL. 43, NO. 7

Hawaii Medical Journal

CONTENTS

Over the Editor's Desk 217
Harry L. Arnold Jr., M.D.

Letter to the Editor—More on Salt Water Drowning 218
Charles B. Odom, M.D.

Bone Marrow Metastases—26 Years' Experience 220
Ben Lin Hom, M.D.

Continuing Medical Education—Special Events 222

Editorial—PRO: Why Should We Pull the Feds' Chestnuts Out of the Fire? 226
J.I. Frederick Reppun, M.D.

Epidemiologic Patterns of Homicides in the City & County of Honolulu, 1977-1983 230
R.W. Armstrong, Ph.D., and N.S. Matsuoka, B.A.

News and Notes 238
Henry N. Yokoyama, M.D.

HMA Auxiliary News 240

Acupuncture Practice in Hawaii 242
Edith E. Trott, M.A., M.P.H.

Medical History of the Islands—Physicians of Hawaii—1800s 250
Charles S. Judd Jr. M.D.

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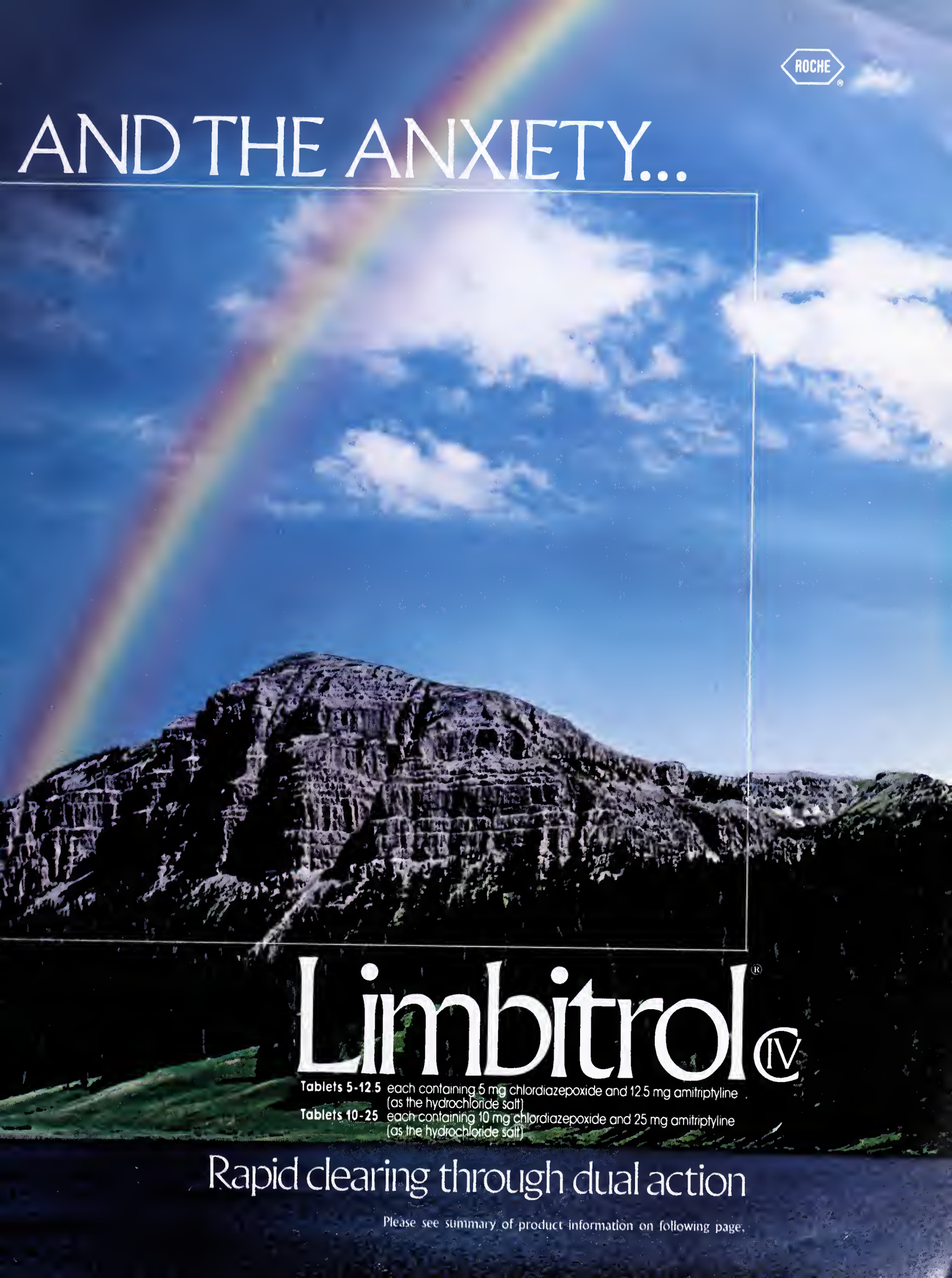
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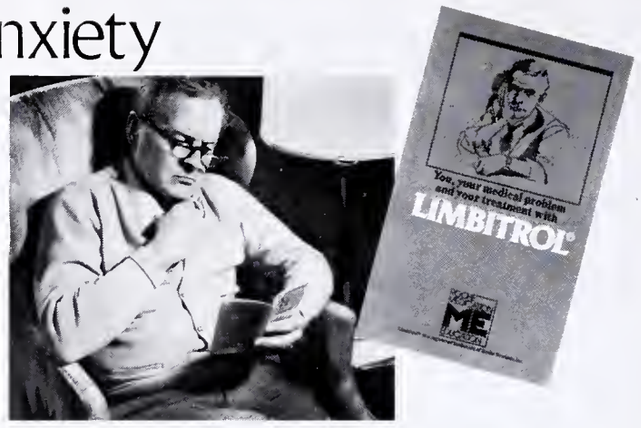
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*Feighner JP: *Psychopharmacology* 61 217-225, Mar 22, 1979.



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Over the Editor's Desk

Harry L. Arnold Jr., M.D.

The American College of Chest Physicians will meet October 8-12 in Dallas, Texas, for its 50th annual scientific assembly.

* * *

Upjohn's Neurosciences Information Center at 99 Park Ave., 3rd floor, New York, N.Y. 10016, will supply fact sheets on anorexia nervosa and bulimia on request, without charge.

* * *

AMA has set up a program for monitoring physicians' experience with Prospective Payment Systems and DRGs; please report yours to them at AMA's DRG Monitoring Project, Dept. of Health Care Resources, Box 10947, Chicago, Ill. 60610.

* * *

Want to do more chemistry tests in less time? DuPont believes its new "aca" V discrete clinical analyzer is the answer.

* * *

Oral acyclovir, 200 mg 5 times a day for 5 days, is performing well against recurrent herpes simplex in trials reported in April 27 *JAMA.*

* * *

Wilcox Hospital in Lihue now has a $23,000 electronic automated CPR training system in which the Resusci-Anne doll "victim" talks back to the student! No instructor is needed, and recertification can take as little as an hour.

* * *

Ten distinguished American physicians spent 2 days drawing up guidelines for physicians dealing with the hopelessly ill, and these were published in the April 12 issue of the *New England Journal of Medicine.*

* * *

Nuclear magnetic resonance—"NMR"—marches on: it's available, though only at Temple University Medical Center in Philadelphia, in a mobile unit! No special building is needed. (By the way, the trend is to call it magnetic resonance imaging (MRI), as "nuclear" makes some people nervous!)

* * *

Breast self-examination is understood and endorsed by nearly 90% of American women, and 80% have done it at least once, but only a third of American women do it regularly! More education and motivation are urgently indicated. So reports the Gallup Poll.

* * *

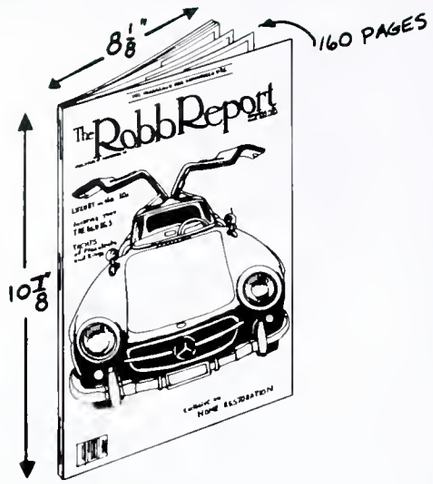
The often maligned AMA has prepared a "Guide to Hospital Management of Injuries . . . Involving Ionizing Radiation." Every institution ought to have copies of this, of course. Single copies are $9.50, postpaid. Write Order Department—OP 35, AMA, Box 10946, Chicago, Ill. 60610.

* * *

General Electric announces the C-arm Polarix surgical mobile image intensifier for use in the ER and the OR. GE Medical Systems brochure #55512 tells all about it.

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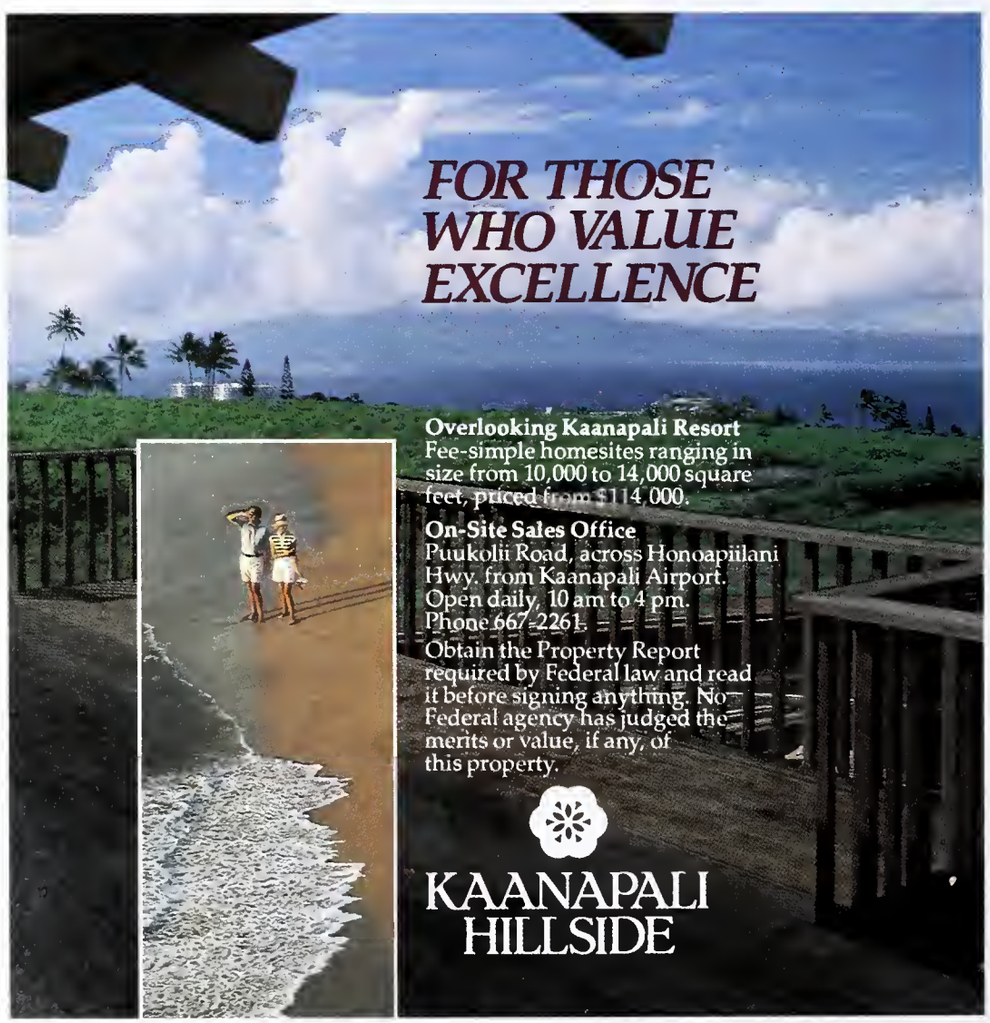
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More on Salt Water Drowning

I found the article on "Salt Water Drowning" by Wong and McNamara in HMJ, June 1984, informative but misleading. The title suggests that the article is a survey of salt water drownings in this state during the decade of the '70s; and the subtitle (?) "Few deaths among 154 casualties . . ." is neither accurate nor reflective of the true situation.

While the authors acknowledge that salt water drowning is a common event in Hawaii, the unwary reader might be lulled into believing that 154 victims was the total for the decade.

I surveyed the records of the Medical Examiner Department of the City & County of Honolulu for the same interval of time and there were 314 deaths attributed to drowning during that interval. Approximately two-thirds of those were in the salt water environment. There were more deaths from salt water drowning in the City & County of Honolulu during the 1970s than the authors' total study population. I do not have the figures for the entire state, but adding 10-15% to our totals would give a reasonable approximation.

Drowning is a significant and frequent cause of death in this state as would be expected given our surrounding environment.

Perhaps a better title would have been something like: "The Outcome of Near Drownings in Salt Water."

Apparently, if the victims reach the hospital alive, they have a pretty good chance of surviving. However, a study of the available data would have indicated that many drown and never reach a medical facility.

Charles B. Odom, M.D.
Chief Medical Examiner
City & County of Honolulu

Ed: We are indebted to Dr. Odom for his additional figures, which help to round out the "Drowning" article of Wong and McNamara. Perhaps Dr. Odom could be convinced to submit an article on the subject from his particular perspective.

KONA AT KEAUHOU

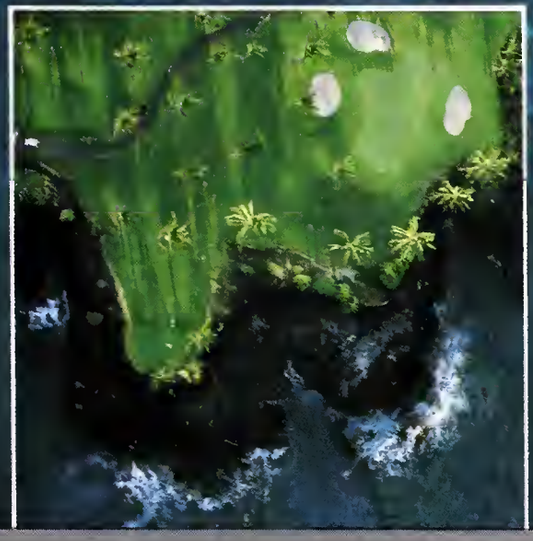
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Bone Marrow Metastases—

26 Years' Experience

Ben Lin Hom, M.D., Honolulu

• *In a 26-year period, a total of 93 metastatic malignancies in bone marrow were diagnosed. In a 13-year period (1957-1969) prior to widespread use of closed-needle biopsy, 7 metastases were diagnosed from 1,184 examinations, a yield of 0.6%. The subsequent 13-year period (1970-1982), during which biopsy became relatively routine, yielded 86 metastases from 2,673 examinations (3.2%). Primary site, in order of frequency was lung, breast, prostate, stomach, unknown, and nasopharynx. Noteworthy was the absence of metastases from thyroid, pancreatic and renal carcinomas, tumors often cited as having a high predilection for bone metastases. Despite their high frequency, no metastases were recorded from gynecological or colo-rectal primaries. Associated bone marrow findings included fibrosis (79%), new bone formation (41%), and necrosis (24%). Peripheral blood abnormalities included anemia (51%), thrombocytopenia (37%), and leukoerythroblastosis (34%). Although examination of aspirate smears, aspirate clot sections, and bone marrow biopsy sections are considered complementary, this study confirms the superiority of bone marrow biopsy in the definitive diagnosis of metastatic malignant neoplasms in bone marrow.*

Bone marrow examination plays a major role in the management of patients with cancer, since the presence of metastatic neoplasm in the bone marrow of patients with non-hematopoietic malignancies has important therapeutic and prognostic implications. Advances in chemotherapy necessitate accurate staging of tumor spread in addition to an assessment of bone marrow reserve. The possibility of aggressive chemotherapy coupled with subsequent autologous bone marrow transplantation is predicated on the absence of metastatic carcinoma in bone marrow. The purpose of this study was to review all cases of metastatic solid tumors (non-hematopoietic) in bone marrow at The Queen's Medical Center of Honolulu (QMC).

Materials and Methods

The bone marrow records of QMC were reviewed for metastatic carcinoma and arbitrarily divided into two 13-year periods, 1957-1969 and 1970-1982, 1970 representing the author's introduction of bone marrow biopsy as a diagnostic tool on a relatively routine basis. Most of the biopsies performed in the early 1970s utilized the Westerman-Jensen needle, whereas the Jamshidi needle has become more popular in recent years. Peripheral blood and bone marrow specimens were processed on a routine basis. Peripheral blood was studied for the presence of anemia, thrombocytopenia, and leukoerythroblastosis. Bone marrow biopsy sections with carcinoma were evaluated for the presence of fibrosis, necrosis, and new bone formation.

Results

A total of 93 metastatic neoplasms were identified. Only cases interpreted as diagnostic were included. Cases felt to be suspicious were, for the purposes of this study, considered negative. In the initial 13-year period (1957-1969), prior to widespread use of bone marrow biopsy, only 7 metastases were diagnosed from 1,184 examinations, a yield of 0.6%. There were 86 metastases from 2,673 examinations in the subsequent 13-year period, a yield of 3.2%. Lung was the most frequent primary site, followed by breast, prostate, and stomach. Primary site was unknown in 7 cases (Table 1). Subsequent evaluation of those of disclosed lung as primary site in 2 patients, stomach in 2 patients, and prostate in 1 patient. The primary site was not determined in the remaining 2 patients, despite post-mortem examination in one case.

The diagnostic usefulness of aspirate smears, aspirate clot sections, and needle biopsy sections for detection of metastatic neoplasms in bone marrow is shown in Table 2. Aspirate smears were either unobtainable or yielded insufficient material for evaluation in 22 of 84 instances (26%). The corresponding figures were 26 of 84 (31%) for aspirate clot sections and 3 of 68 (4%) for needle biopsy sections. When tabulated on the basis of total attempts, the rates of positive examinations were 56%, 58%, and 93%, for smears, clots, and biopsy, respectively. More reasonable figures are those which exclude the unsuccessful attempts; rates of positivity based upon evaluable material were 76%, 84%, and 97% for smears, clots, and biopsy, respectively. Table 3 summarizes the data based upon total attempts, unsuccessful aspiration or

TABLE 1. Primary sites of tumor metastatic to bone marrow (93 cases)

Primary site	Number of cases	% of total
Lung	25	27
(Non-small cell carcinoma 16)		
(Small cell carcinoma 9)		
Breast	22	24
Prostate	16	17
Stomach	13	14
Primary site unknown	7	8
Other primaries*	5	5
Nasopharynx	3	3
Neuroblastoma	2	2

*Single cases of melanoma, seminoma, chondrosarcoma, cholangiocarcinoma, and rhabdomyosarcoma.

From the Department of Pathology, The Queen's Medical Center, and the Clinical Science Program, Cancer Center of Hawaii, University of Hawaii at Manoa, Honolulu, Hawaii.
Presented in preliminary form at the Fourth Meeting, Asian-Pacific Division, International Society of Hematology, Seoul, Korea, 1979.
Address for reprints: Ben Lin Hom, M.D., Department of Pathology, The Queen's Medical Center, P.O. Box 861, Honolulu, Hawaii 96808.

Accepted for publication March 1984.

biopsy being tabulated as a negative result.

Anemia was the most commonly peripheral blood abnormality, occurring in 51% of the patients (Table 4). Of the patients with bone marow metastases, 34% had peripheral blood smears showing no abnormality. Fibrosis was the most common associated bone marrow abnormality, occurring in 79% of cases with bone marrow metastases (Table 4).

TABLE 2. Bone marrow metastases. Comparison of yield with aspirate smears, aspirate clot sections and needle biopsy sections

	Aspirate smears		Aspirate clot sections		Needle biopsy sections	
	Number	%	Number	%	Number	%
Total attempts	84	100	84	100	68	100
Unsuccessful	22	26	26	31	3	4
Positive						
(of total)	47	56	49	58	63	93
(of evaluable)		76		84		97

TABLE 3. Bone marrow metastases (93 cases)

Method	Number/attempts	%
Biopsy +	63/68	93
Aspirate +	49/84	59
Biopsy +, aspirate +	26/62	42
Biopsy +, aspirate-	30/81	37
Aspirate +, biopsy-	4/65	6

TABLE 4. Peripheral blood and bone marrow findings associated with bone marrow metastases

	Number	%
Peripheral blood	84	100
Anemia	43	51
Thrombocytopenia	31	37
Leukoerythroblastosis	29	34
No abnormality	29	34
Bone marrow	63	100
Fibrosis	50	79
New bone formation	26	41
Neerosis	15	24

Discussion

The frequency and primary sites of metastatic non-hematopoietic neoplasms in bone marrow in this series are in general agreement with those reported in the literature. Most reported series are in agreement that lung, breast, and prostate are origins of the most common solid tumors metastatic to bone marrow.[1-5] The absence of significant numbers of metastases of malignant melanoma may reflect the ethnic population distribution in Hawaii.

The low incidence of pediatric tumors is a reflection of the patient population of QMC.

A series reporting relatively large numbers of melanoma, Ewing's sarcoma, rhabdomyosarcoma, and undifferentiated sarcomata undoubtedly reflect the nature of the reporting institution as a referral center specializing in the care of patients with cancer.[6]

The relatively high incidence of gastric carcinoma in the QMC material is an indication of the incidence of this neoplasm among those of Japanese and Hawaiian ancestry.

Noteworthy was the absence of metastases from colo-rectal, gynecological, and urinary bladder primaries, despite their high frequency. The results of this study are not in accord with texts which cite thyroid,[7-9] kidney,[7-9] pancreas,[7] and sometimes colon[8] as sites of origin of neoplasms with a predilection to metastasize to bone marrow.

In this study, 7 patients presented with bone metastases without a known primary site. Lung, stomach, and prostate were subsequently determined to be the primary sites in 5 patients. No primary was determined in the remaining 2 patients, despite a post-mortem examination in 1 case. Of the 22 patients with metastases from a breast primary, none presented at a time when the primary site was not known, in accord with a previous study.[5]

When comparing the efficacy of aspirate smears, aspirate clot sections, and needle biopsy sections, this study is in agreement with previous reports of the superiority of bone marrow biopsy.[2,4,5,10] On the other hand, this study is in agreement with a previous report that the discrepancy in aspirate versus biopsy, manifested by figures for aspirate-negative-biopsy positive percentages, is due to changes in the marrow induced by the presence of neoplasm.[11] The aspirate negative/biopsy positive rate has varied from 25%,[11] 28%,[2] to 37% in this study. A high percentage of these were associated with bone marrow fibrosis, a common finding (79%) in this study. This study does not confirm a previous study in which aspirated material was positive as often as needle biopsy.[3] We routinely assessed all available aspirate smears and do not feel it necessary or rewarding to ask technologists or physicians to spend "as much as several hours"[3] to search for tumor cells in smears, when their presence or absence can be ascertained in a fraction of that time in clot sections and/or biopsy sections.

Associated bone marrow findings are in agreement with a previous report[10] that fibrosis is most common, followed by new bone formation and that necrosis is least common. Also in agreement with previous studies, anemia was the most common peripheral blood abnormality, followed by thrombocytopenia and a leukoerythroblastic blood smear.[1,4,5,10] This study and previous reports indicate that about 26% to 42% of patients with bone marrow metastases will have no abnormalities detectable in peripheral blood.[1,5] The author has not encountered a peripheral blood smear with non-hematopoietic tumor cells in 20 years of examining material prepared in routine fashion.[12]

This study confirms, over an extended period of time, the efficacy of bone marrow biopsy in the detection of metastatic disease. Aspirate smears and clot sections are less efficient primarily due to the inability to obtain a satisfactory specimen in about 30% of patients due to fibrosis, i.e. "dry taps." This study also documents the low incidence of metastases to bone marrow from high incidence neoplasms, and neoplasms said to have a high predilection for bone marrow

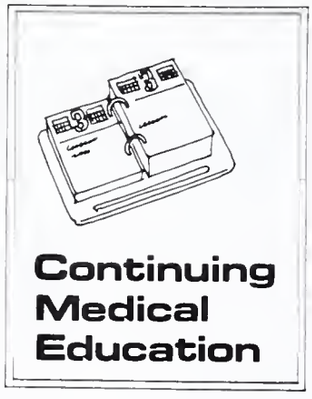
metastases. These include colon,[8] rectum, urinary bladder, cervix uteri, endometrium, ovary, pancreas,[7] thyroid,[7-9] head and neck carcinomas, and kidney.[7-9] Pre-chemotherapy bone marrows may well continue to be performed in order to assess "bone marrow reserve," but it is the author's experience that hypoplastic bone marrows obtained from the posterior iliac crest are almost always attributed to sampling problems provided peripheral blood findings are normal. It is the author's contention that this study indicates that pre-chemotherapy bone marrow examinations are not necessary in patients with certain high incidence malignancies, since these patients are at low risk for bone marrow metastases. Exhaustive evaluation appears to be non-rewarding and not cost-effective.[13] Further studies are necessary to establish or exclude whether bone marrow examination is a necessary prerequisite to intensive chemotherapy in many patients with cancer.

REFERENCES

1. Pittman G, Tung KSK, Hoffman GC: Metastatic cells in bone marrow. Study of 83 cases. *Cleve. Clin. Q.* 1971; 38:55-64.
2. Singh G, Krause JR, Breitfeld V: Bone marrow examination for metastatic tumor. Aspirate and biopsy. *Cancer* 1977; 40:2317-2321.
3. Garrett TJ, Gee TS, Lieberman PH, McKenzie S, Clarkson BD: The role of bone marrow aspiration and biopsy in detecting marrow involvement by nonhematologic malignancies. *Cancer* 1976; 39:2401-2403.
4. Lake-Lewin D, Tang CK, Gray GF: Metastatic tumor in bone-marrow biopsy. *N.Y. State J. Med.* 1975; 75:1008-1011.
5. Leland J, MacPherson B: Hematologic findings in cases of mammary cancer metastatic to bone marrow. *Am. J. Clin. Pathol.* 1979; 71:31-35.
6. Anner RM, Drewinko B: Frequency and significance of bone marrow involvement by metastatic solid tumors. *Cancer* 1977; 39:1337-1344.
7. Rywlin AM: Histopathology of the Bone Marrow, Boston: Little, Brown and Company, 1976; 133.
8. Brunning RD: Bone marrow. In: Rosai J, ed. Ackerman's Surgical Pathology, 6th Ed. vol. 2. St. Louis: The C.V. Mosby Company 1981; 1294.
9. Cato ME, Barnes R, Davidson JK: Diseases of bones, joints and soft tissues. In: Stuart AE, Smith AN, Samuel E, eds. Applied Surgical Pathology. Oxford: Blackwell Scientific Publications, 1975; 807.
10. Contreras E, Ellis LD, Lee RE: Value of the bone marrow biopsy in the diagnosis of metastatic carcinoma. *Cancer* 1972; 29:778-783.
11. Savage RA, Hoffman GC, Shaker K: Diagnostic problems involved in detection of metastatic neoplasms by bone-marrow aspirate compared with needle biopsy. *Am. J. Clin. Pathol.* 1978; 70:623-627.
12. Mendoza CB, Moore GE, Crosswhite LH, Sandberg AA, Watne AL: Prognostic significance of tumor cells in the bone marrow. *Surg. Gynecol. Obstet.* 1969; 129:483-488.
13. Mettler FA, Christie JH, Crow NE, Garcia JF, Wicks JD, Bartow SA: Radionuclide bone scan, radiographic bone survey, and alkaline phosphatase. Studies of limited value in asymptomatic patients with ovarian carcinoma. *Cancer* 1982; 50:1483-1485.

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CALENDAR OF ACCREDITED EVENTS—CATEGORY 1

Accredited Programs of CME allow one unit of AMA credit for each hour of instruction excluding all "breaks." Some programs also are accredited for AAFP prescribed credit.

LOCAL ACCREDITED PROGRAMS

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For a complete list of ongoing programs, please refer to the March 1984 issue of the HAWAII MEDICAL JOURNAL. Further information is available through the individual institutions or through the HMA's CME Department.

SPECIAL EVENTS

All special events should be confirmed with the CME program sponsors, as cancellations are not necessarily reported to the HAWAII MEDICAL JOURNAL.

July 7-14, 1984	Cardiovascular Medicine and Surgery. Contact: Stanford University Medical Center, Room TC 129, Stanford, Calif. 94305, (415) 497-5594. At: Mauna Kea Beach Hotel, Hawaii.
July 21-28, 1984	How to Cope with PPO's *and* Developing a Simplified Approach to Financial Planning for the Physician. Contact: Perkins and Zures, Inc., at (714) 787-8522. At: S.S. Independence Cruise, Honolulu, Hawaii.
Aug. 10-15, 1984	Pre-Symposium Workshop: "Roles and Responsibilities of Physicians and Mental Health Specialists in the Courtroom: Views from the Bench." Contact: G. Waldron, M.D., Southern California Neuropsychiatric Institute, 6794 La Jolla Boulevard, La Jolla, Calif. 92037, (619) 454-2102.
Aug. 12-22, 1984	27th Annual Postgraduate Refresher Course. Contact: University of Southern California School of Medicine, Postgraduate Division, 2025 Zonal Avenue, Los Angeles, Calif. 90033, (800) 821-5094/(213) 746-1384. At: Sheraton Waikiki and Royal Lahaina Maui.
Aug. 18-23, 1984	Responsibility Issues in Mental Health. Contact: G. Waldron, M.D., Califoria Neuropsychiatric Institute, 6794 La Jolla Boulevard, La Jolla, Calif. 92037, (619) 454-2102. At: The Mauna Kea Beach Hotel on the Big Island of Hawaii.
Aug. 19-24, 1984	The 11th Hawaiian Seminar on Clinical Anesthesiology. Contact: Educational Programs, Division of the California Society of Anesthesiologists at (415) 348-1407. At: Maui Surf (Kaanapali Beach), Maui, Hawaii.
Aug. 19-25, 1984	American Fertility Society, American Fertility Society, 1608 13th Avenue, South, Suite 101, Birmingham, Ala. 35256. At: Hyatt Regency, Maui.
Aug. 20-24, 1984	Laboratory Medicine 84—Cost Effective Use of the Laboratory for Clinicians and Pathologists. Contact: University of Southern California, Dept. of Pathology, (213) 226-7139. At: Honolulu.
Aug. 24-25, 1984	The Pan-Pacific Conference on Health Systems Development and Planning. Contact: Jonathan S. Raymond, M.D., School of Public Health, University of Hawaii at Manoa, 1960 East West Road, Honolulu, Hawaii 96822, (808) 948-7337. At: Honolulu.
Aug. 25-Sept. 1, 1984	Laboratory Medicine 1984, for Physicians, Pathologists and Technologists, co-sponsored with the University of Southern California School of Medicine, Dept. of Pathology. Contact: Dee Chang, University of Hawaii at Manoa, John A. Burns School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 947-8573. At: Hotel King Kamehameha, Kong, Big Island of Hawaii.
Aug. 20-Sept. 12, 1984	CME in Tibet: Medicine in China Past and Present and Diagnostic Imaging: Its Impact on the Clinician, Dr. Fred Gilbert. Contact: Dee Chang, University of Hawaii School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 947-8573. At: 23-day tour of China and Tibet.

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Continued from page 222

Sept. 15-22, 1984	Echo/Doppler Cruise—Echocardiography. Contact: Institute for Medical Studies, 14761 Franklin Avenue, Suite A, Tustin, Calif. 92680, (714) 832-2650. Cruise through the Hawaiian Islands.
Oct. 1-5, 1984	International Symposium on Medical Transport—An Emerging Sub-specialty. At: Honolulu.
Oct. 6-12, 1984	UCLA Arthroscopy. Contact: Mrs. Janet Frank, Dept. of Health Sciences, Room 614, 10995 Le Conte Avenue, Los Angeles, Calif. 90024. At: Maui Marriott.
Oct. 6-13, 1984	Cardiology at University of Southern California, USC School of Medicine, Postgraduate Associate Dean, USC School of Medicine Postgraduate Division, 2025 Zonal Avenue, KAM 307, Los Angeles, CA 90033, (213) 224-7051. At: Mauna Kea Beach Hotel.
Oct. 13-21, 1984	9th Annual International Body Imaging Conference. Contact: Medical Seminars International, Inc., West Park Hospital Medical Office Building, 22135 Roscoe Boulevard, Suite 104, Canoga Park, Calif. 91304, (818) 340-0580, ext. 280. At: Royal Lahaina or Hyatt Regency Maui.
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Oct. 21-25, 1984	Medical Group Management. Contact: Medical Group Management Association, 1355 South Colorado Boulevard, Suite 900, Denver, Colo. 80222. At: Sheraton Waikiki.
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Oct. 31-Nov. 14, 1984	The Status of Medicine in China Today, Dr. K.S. Tom. Contact: Dee Chang, University of Hawaii School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 947-8573. At: 15-day tour of China.

Continued on page 228

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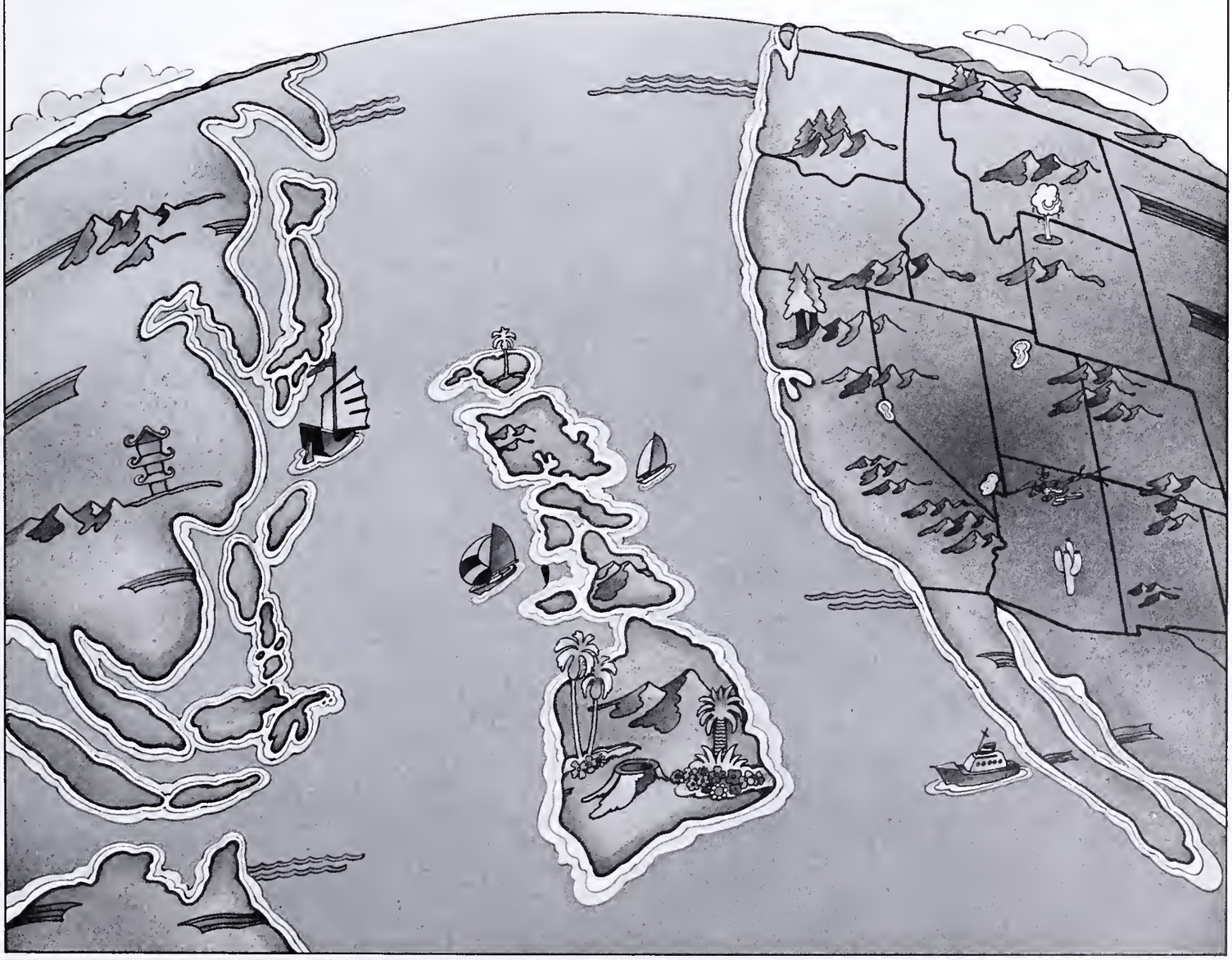
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PRO: Why Should We Pull the Feds' Chestnuts Out of the Fire?

LEGEND:
PPS = Prospective Payment System: The "New Medicine, USA"
PRO = Peer Review Organization: The "Fall Guy"
DRG = Diagnosis Related Groupings: Known as "Bango" in the olden days of Plantation Medicine; "Computertalk" in the New Medicine
OUTLIER = grudgingly permitted extensions a la "bell curve"
HCFA = Health Care Financing Administration aka Medicare: "Big Brother"
DHHS = Department of Health & Human Services: "The Feds"; DSSH in Hawaii

Cave Fedem! (Beware the Feds!)

Admittedly the result of the rising costs of medical care, which was wrongly ascribed to so-called dollar-hungry physicians and "their" hospitals, together with their new super-technologies, the government has come up with PPS, DRGs, and PROs for in-hospital care. The intent is to try to save the HCFA from going bankrupt.

The masses—people/patients—have exerted pressure for cost-containment in medical care, to which their government has responded, but without realizing that the electorate wants no part of any reduction in services, reduction of benefits nor denial of "the newest and the best" in technology, all of which demand is the prime mover toward escalation of such costs. As a consequence, the flawed PPS was born and is now the law of the land.

Flawed? "The federal government is depending on physicians to protect patients from abuses that could occur (under PPS)," reports the American Medical News in its lead article (December 16, 1983), describing DSSH's Secretary Margaret Heckler address to the AMA's Interim Meeting audience.

Abuses? Patients would be abused by their doctors? No! No! Maggie was talking about abuses by PPS!

What?! Doctors and their PROs were to protect patients from their own government's intent to abuse them? Incredible! "DRGs create incentives for hospitals to: (1) Prematurely release patients to keep cost of treatment and length of stay down; (2) provide inadequate services to increase profits; and (3) refuse treatment of cases that may be less financially rewarding, given the allowed payment for that DRG. Consequently, *it is essential that physician-directed PROs be in place to protect patients from the potentially adverse effects of the DRG system.*" (From the HMA's "Important—Urgent—Important" directive of March 23, 1984, and also from HMA's "hotline" in the HCMS Bulletin)

Physicians obviously are being singled out as "The Fall Guy" if PPS fails. The threat of the mailed fist being extended by the Feds is there, thinly veiled by platitudes and euphemisms. "If a physician-directed or physician-access PRO is NOT (Ed: Emphasis is ours) designated . . . then fiscal intermediaries . . . would (quoting again from the HMA letter) . . ." This is blackmail, pure and simple. And, the HMA has been willing to succumb to the threat, it seems. Even more incredible, and horrifying, is the realization that the HMA has been willing to pay protection money—$15,000—for the "privilege" of being the Fall Guy!

What is it that the PRO is mandated to do? We quote again from the HMA's letter:

- The validity of diagnostic information provided by the hospital for purposes of payment (DRG verification);
- The completeness, adequacy, and quality of care;
- The appropriateness of admissions and discharges; and
- The appropriateness of care provided to outlier cases.

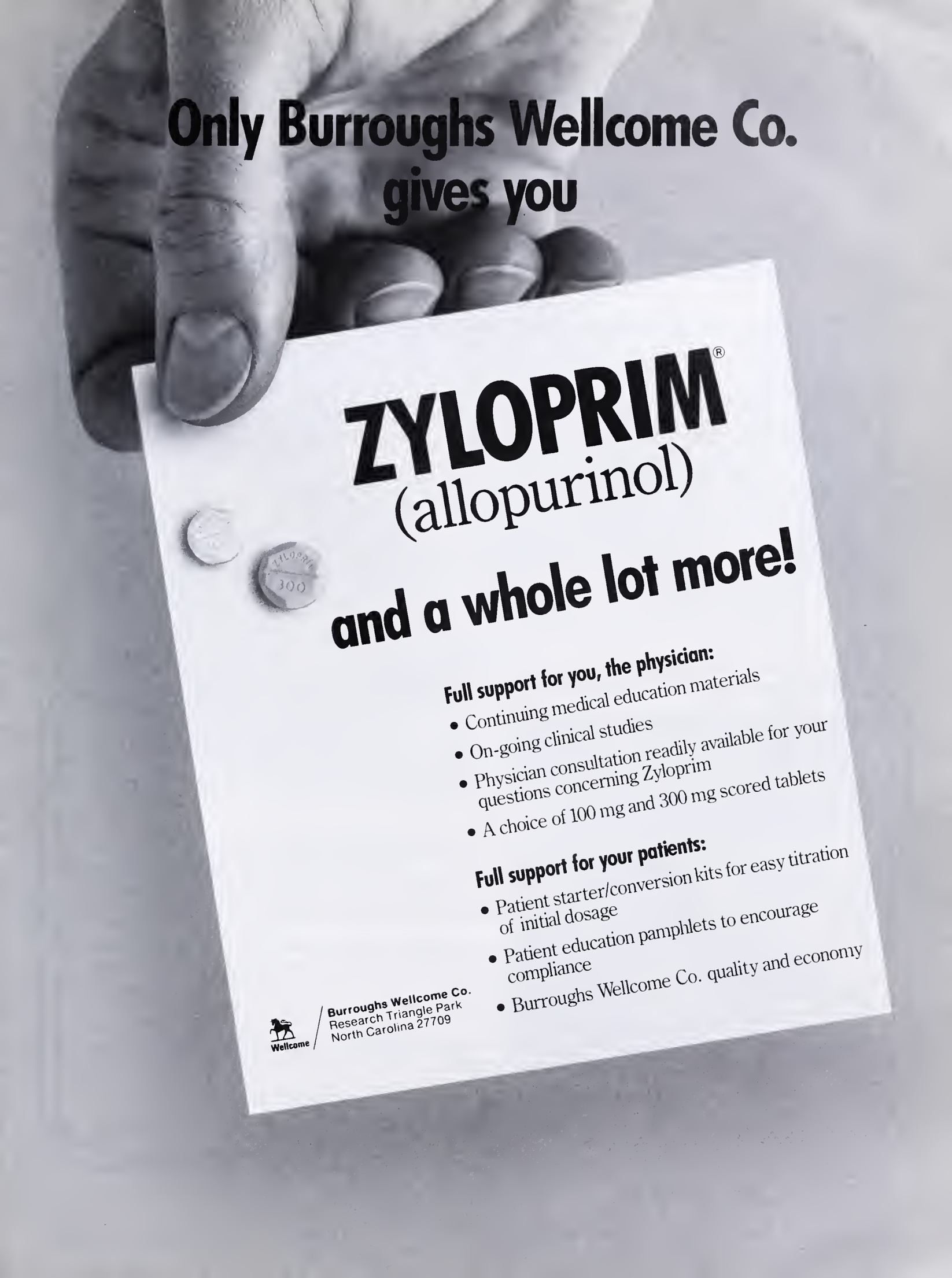
So what's new? Hospital medical staff URCs have been doing this for years, are doing it, and will do it as a part of quality control from now to eternity. What IS new and what most HMA members and non-members alike have not as yet grasped is that there is ABSOLUTELY NO APPEAL from the rigid DRG (and outlier) determinations. A physician PRO may determine with the best medical judgment in the world that a case was indeed well-managed and that greater compensation to the hospital was warranted; this decision will have absolutely no effect on the computer-fixed fiscal determination. If the PRO decides that the attending was completely correct in keeping his patient in hospital 7 days, instead of the allotted 5, for that DRG, or for ordering a life-saving CT-Scan (expensive) instead of a simple skull X-ray (cheaper), its decision will not bring the hospital a penny more than the set amount!

Is organized medicine (PROs) to be made to pay for victimizing itself and made to pay for accepting the blame if PPS fails? Therefore, why should we physicians knuckle under and pull the government's chestnuts out of the fire? And be burned and blamed all at the same time?

Let non-physicians police a system that boils down to "less benefits for less bucks." Maggie's statement (the AMNews again) to physicians—"You can safeguard the quality of care"—is a sugary sop that plays on the highest ideals of medicine and is bait on the hook that will be our undoing. We can easily expand on Maggie's statement: "But, if you physicians fail to maintain high quality medical care, despite the denial to your patients of the very best in services and technologies, you will be The Fall Guys!"

As a codicil, we recommend you read the New England Medical Journal, Vol. 310, No. 11, page 729: "The Unfortunate Case of Dr. Z" by John F. Burnum, M.D.

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Continued from page 226

Nov. 2-3, 1984	Seminar on Aging: "New Hope for an Old Problem." Contact: Moana, 888 S. King St., Honolulu, Hawaii 96813, (808) 523-2311, Ext. 8153. At: Honolulu Academy of Arts Theatre, Honolulu, Hawaii.
Nov. 5-14, 1984	The Impact of Eastern and Western Cultures on Infectious Diseases, Dr. Dexter Seto. Contact: Dee Chang, University of Hawaii School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 947-8573. At: 9 days in Hong Kong.
Nov. 9-11, 1984	Hawaii Medical Association 128th Annual Scientific Meeting, Infectious Disease: Current Status and New Horizons. Contact: Jennie Asato, Hawaii Medical Association, 320 Ward Avenue, Suite 200, Honolulu, Hawaii 96814, (808) 536-7702. At: Kauai Surf Hotel, Kauai.
Nov. 17-24, 1984	Medicine and Society in History. Contact: University of Washington School of Medicine, Division of CME, E303 Health Sciences Center, SC-50; Seattle, Wash. 98195, (206) 543-1050. At: Inter-Continental Maui, also Molokai lecture and tour on Nov. 23-34 (Kalaupapa).
Nov. 24-Dec. 1, 1984	Red Cells in the Sunset, Dr. James Linman. Contact: Dee Chang, University of Hawaii School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 947-8573. At: 7-day cruise around the Hawaiian Islands.
Nov. 27-29, 1984	Pacemaker Update, co-sponsored by the Cordis Corporation. Contact: Dr. Irwin Schatz, University of Hawaii, John A. Burns School of Medicine, Dept. of Medicine, 1356 Lusitana St., 7th Floor, Honolulu, Hawaii 96813, (808) 548-2810. At: Hyatt Regency Maui.
Dec. 2-5, 1984	American Medical Association—Interim House of Delegates. Contact: Bob Hobard, Dept. of Meeting Management, AMA, 535 North Dearborn St., Chicago, Ill. 60601. At: Sheraton Waikiki, Honolulu.
Dec. 5, 1984	Hypertension Symposium for Hawaii—1984. Contact: Stephen Wallach, M.D., 848 South Beretania St., Suite 315, Honolulu, Hawaii 96813, (808) 521-3851. At: Queen's Hospital, Mabel Smyth Auditorium, Honolulu.
Dec. 5-8, 1984	The Fourth Annual Asian-Pacific Congress of Medical Marathoners in conjunction with the Twelfth Annual AMJA Symposium on The Athletic Heart: Physiological Adaptation to Environmental Stress. Contact: Hugh Ames, P.O. Box 27332, Chinatown Station, Honolulu, Hawaii 96827. At: Moana and Surfrider hotels, Honolulu.
Dec. 8-15, 1984	Cross Cultural Medical Care, Dr. Donald Char. Contact: Dee Chang, University of Hawaii School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 947-8573. At: 7-day cruise around the Hawaiian Islands.
Dec. 27-29, 1984	"Allergy and Asthma." Contact: Symposium Maui, Inc., Joe Harrison, M.D., P.O. Box 10185, Lahaina, Maui, Hawaii 96761, (808) 661-8032. At: The Royal Lahaina, Maui.
Jan. 3-5, 1985	"Allergy and Dermatology." Contact: Symposium Maui, Inc., Joe Harrison, M.D., P.O. Box 10185, Lahaina, Maui, Hawaii 96761. At: The Royal Lahaina, Maui.
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Epidemiologic Patterns of Homicides in the City & County of Honolulu, 1977-1983

R.W. Armstrong, Ph.D.,* and N.S. Matsuoka, B.A.,** Honolulu

• *Homicide has become a leading cause of death in the United States, especially among males aged 15 to 34 years. In the City & County of Honolulu, it has ranked as the third cause of death, after accidents and suicides, for both males and females in this age group during the 10-year period, 1974-1983. The epidemiology of homicide is important in planning preventive measures in public heath, and as background knowledge in medicine and pathology.*

Homicide (murder and non-negligent manslaughter) is defined in the Uniform Crime Reporting Program as the willful killing of one human being by another.[1] The classification and reporting of these incidents is based solely on police investigation as opposed to the determination of a court or other authority. Not included as homicides are deaths caused by negligence or by justifiable homicide, as for example in the killing of a felon by a police officer.

This paper draws on the record of 310 homicides in the Police Department, Honolulu city and county for the 7 years 1977-1983. Honolulu city and county comprises the Island of Oahu and the uninhabited northwestern Hawaiian Islands of the State of Hawaii. In 1980, the total population of Honolulu city and county was 762,565, comprising 79% of the state's population. The Honolulu city and county population is relatively youthful and includes a wide variety of ethnic origins. In 1980, the major ethnic groups were: white 33%, Japanese 25%, Filipino 13%, Hawaiian 11%, Chinese 7%, and others 11% (Table 1).

Methods

Data on homicides were obtained from the supplementary homicide report forms of the Honolulu police department for the period 1977-1983. These provide information on age, sex, and ethnicity of victim and offender, the weapon used, relationship of victim to offender, circumstances of the incident, and the situation defined as to single or multiple participants. Additional details on the circumstances of the incident, such as motive, and the place where it occurred, were obtained from official records. Homicides were classified for analysis as primary (those not occurring during the

TABLE 1.
Age/sex-adjusted homicide rates per 100,000 per annum, Honolulu city and county, 1977-1983, by ethnicity and sex.

Ethnicity	Victims No. 1977-83 M.	F.	Rate[2] M.	F.	Offenders[1] No. 1977-83 M.	F.	Rate[2] M.	F.	Population Honolulu C&C 1980 M.	F.
White	77	30	7.0	3.5	65	9	5.9	1.0	137,345	115,110
Black	13	1	11.9	2.4	4	1	3.7	2.4	11,485	5,358
Japanese	25	9	3.8	1.3	13	1	2.0	0.1	91,185	98,643
Chinese	7	6	3.8	3.2	4	1	2.2	0.5	26,131	26,683
Filipino	24	10	7.5	3.0	22	2	6.9	0.6	50,346	47,219
Korean	7	4	14.7	5.4	4	1	8.4	1.3	7,038	9,842
Hawaiian	50	19	19.6	6.9	53	11	20.8	4.0	39,547	40,625
Samoan	6	9	15.4	20.3	33	2	84.9	4.5	6,819	6,992
Other	11	2	7.2	1.4	25	—	16.2	—	22,007	20,190
Total	220	90	7.7	3.4	223	28	7.7	1.1	391,903	370,662

[1]For 99 incidents sex and ethnicity of offender was unknown.

[2]Age/sex-adjusted by the indirect method with the 1980 U.S. homicide rates as standard for both victim and offender.

TABLE 2.
Age/sex-specific homicide rates per 100,000 population per annum, Honolulu city and county, 1977-1983.

Age group	Victims No. 1977-83 Males	Females	Rate/100,000 Males	Females	Offenders[1] No. 1977-83 Males	Females	Rate/100,000 Males	Females
<5	4	2	1.8	1.0	—	—	—	—
5-14	1	4	0.2	1.0	1	—	0.2	—
15-24	61	26	9.9	5.2	91	7	14.7	1.4
25-34	57	34	11.1	4.7	75	8	14.6	1.6
35-44	43	13	13.6	4.2	35	8	11.0	2.6
45-54	29	7	11.6	2.5	12	5	4.8	1.8
55-64	12	9	5.3	3.9	4	—	1.8	—
65-74	6	4	4.6	3.3	3	—	2.3	—
75+	7	2	12.0	2.6	2	—	3.5	—
Total	220	90	8.0	3.5	223	28	8.1	1.1

[1]For 99 incidents age and sex of offender was unknown.

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perpetration of another crime), and secondary (those occurring during the perpetration of another crime).[2] To analyze relationships between victim and offender, only data for the first-specified victim, and first-specified offender were tabulated. In incidents involving multiple victims or offenders, the participants are not listed in records in any predetermined order.

Rates for homicide specific to victim and to offender, by sex, age, and ethnic group, were computed using the 1980 census population. Age/sex-adjusted rates were computed by the indirect method, using the 1980 homicide experience of the United States as standard.

Results

Homicide frequency fluctuates considerably by month and by year in Honolulu city and county. The annual totals between 1977-1983 ranged from a high of 65 in 1980, to a low of 26 in 1982, but the variations balance one another to give an average rate that has shown no significant rise or fall during the 7-year study period, and which extends back to 1972.

Males were homicide victims 2.4 times more often than females; and males were offenders 8 times more often than females (Table 1). The age-adjusted rates for victims and offenders by sex and ethnic group show marked variation. Males were at greater risk of death from homicide in all ethnic groups except Samoan, where females were at higher risk. As offenders, rates for males were higher than for females in all ethnic groups (Table 1). Age/sex-specific rates show highest risk for both victims and offenders in the 15-54 year age group. There was moderate risk in older age groups, except that female offenders were confined to the 15-54 year age group during the study period (Table 2) (i.e., no women over age 54 were cited as offenders). Among 94 % of male and 87% of female homicide victims, a single victim was involved, with mostly single offenders (Table 3). In 11 homicides, there were 2 victims per incident; one incident had 3 victims. Nine homicides had 2 offenders per incident, 7 had 3, and there were 4 incidents with, respectively, 4, 8, 10, and 11 offenders. The incidents with 10 and 11 offenders both took place in prison.

Fully 62% of male victims and 70% of female victims died in primary homicides, where no other crime was involved. Of the totals, 12% of male victims and 13% of female victims were secondary homicides, where the offender was perpetrating another crime as well. In 26% of the male cases and 17% of the female cases, the primary or secondary status was not established (Table 3).

There were 192 primary homicides and 36 secondary homicides, when classified for first-specified victim and first-specified offender. Both the victim and offender were male in the majority of incidents in which the sex of both victim and offender was known (Table 4). Female offender/female victim homicides were rare. The ethnic relationships between victim and offender varied considerably, as one would expect in Honolulu's multiethnic society, which is comparatively well-mixed socially and geographically. The ethnicity of the victim was the same as the offender for whites 50%, blacks 25%, Japanese 54%, Chinese 40%, Filipino 65%, Korean 80%, Hawaiian 39%, Samoan 32%, and all others 25%.

Relationships varied significantly with the sex of the victim and offender in primary homicides (Table 5). Females were victims and offenders mostly in intrafamilial homicides. Homicides involving strangers were proportionately more common among males.

Of the 192 primary homicides, 121 or 63% were associated with an argument or fight, 42 (22%) with a romantic triangle or personal relationship, and 29 (15%) with other circumstances, most of which were not clearly established. Of the romantic/personal relationship type 90% and of the argument type 62% were between victims and offenders who knew each other (Table 6).

Of the 36 secondary homicides, 19 (53%) were committed during robbery, 6 (17%) during burglary, and 4 (11%) each during rape and arson. In only 17% of these incidents were victim and offender acquaintances (Table 6).

A private residence was the most common place of occurrence for homicide for 57% of female victim incidents and 35% of male. For male victims, the sidewalk, a parking lot, or similar public place was almost as common, accounting for 31% of incidents, while for female victims the figure was 12%.

The distribution of primary and secondary homicides by place of occurrence follows expected patterns: personal primary type occurring mostly in residences, arguments and fights in both residences and street, and secondary homicides mostly outside private residences (Table 7). However, 13 (36%) of the secondary homicides took place in private homes—5 in association with burglary, and 4 with arson.

Firearms were used in 40% of all

TABLE 3.
Number of homicides, Honolulu city and county, 1977-1983, by situation.

Situation	Victims			
	Males		Females	
	No.	%	No.	%
Single victim/single offender	119	54.1%	51	56.7%
Single victim/unknown offender(s)	72	32.7%	23	25.6%
Single victim/multiple offenders	16	7.3%	4	4.4%
Multiple victims/single offender	10	4.5%	9	10.0%
Multiple victims/unknown offender(s)	3	1.4%	3	3.3%
First-specified victim/first-specified offender	213	96.8%	84	93.3%
Other specified victim/other specified offender	7	3.2%	6	6.7%
Primary (non-felony associated)	136	61.8%	63	70.0%
Secondary (felony associated)	26	11.8%	12	13.3%
Not established	58	26.4%	15	16.7%
Total homicides	220	100.0%	90	100.0%

TABLE 4.
Distribution of primary and all homicides by first-specified victim's sex and first-specified offender's sex, Honolulu city and county, 1977-1983.[1]

Sex	Primary		All homicides	
Offender/Victim	No.	%	No.	%
Male/male	95	56.5%	118	59.6%
Male/female	50	29.8%	56	28.3%
Female/female	4	2.4%	4	2.0%
Female/male	19	11.3%	20	10.1%
Total incidents	168	100.0%	198	100.0%

[1]Excludes 24 primary homicides, and 99 homicides of all types, where sex of the offender was unknown.

homicides, with handguns accounting for 30% of the total (Table 8). Knives and other cutting and stabbing instruments were involved in 24%, and other weapons (clubs, fists, hands, feet, fire, motor vehicles) in 34%. There was no known use of poison in the homicides under study. This pattern was essentially retained for primary homicides in each sex relationship between victim and offender, except for the small number of female victim/female offender homicides (Table 8). In secondary homicides, use of firearms was exceptional. Handguns were involved in only 20% of male victim/male offender secondary homicides (Table 8).

The pattern of weapons used (Table 8) did not vary significantly by ethnicity of the victim, or by ethnicity of the offender. Handguns were the most frequently employed weapon by offenders in all ethnic groups, except for Samoan offenders, who used hands, fists, and clubs in 67%

TABLE 5.

Percentage distribution of primary homicides by the relationship between the first-specified victim and the first-specified offender, by sex of the victim; and between the first-specified offender and the first-specified victim, by sex of the offender, Honolulu city and county, 1977-1983.

	Victim		Offender	
Relationship	Male	Female	Male	Female
Spouse	9.2%	29.5%	12.4%	52.2%
Other family	6.9%	13.1%	9.7%	13.0%
Friend	12.2%	24.6%	17.9%	21.8%
Acquaintance	29.8%	11.5%	30.3%	8.7%
Stranger	28.2%	9.8%	27.6%	4.3%
Unknown	13.7%	11.5%	2.1%	—
Total %	100.0%	100.0%	100.0%	100.0%
No. incidents	131	61	145	23



of incidents.

The distribution of primary homicides by place of occurrence and relationship between victim and offender emphasizes the fact that most family-related homicides occur in private residences, with motor vehicles, the street, beaches, and parks being of much less importance (Table 9). Streets or parking lots were the most common places for primary homicides involving victim and offender as strangers.

Discussion

The mean age-adjusted rates for homicide in Honolulu city and county, 1977-1983, of 7.7 per 100,000 population for male victims, and 3.4 per 100,000 for female victims (Table 1), are below the 1980 U.S. national rates (1.54 per 100,000 for males, and 4.3 for females.[1]) For the total population of Honolulu city and county, the crude rate for homicides was 5.8, compared with 10.7 per 100,000 for

TABLE 6.

Percentage distribution of homicides by type and by relationship of first-specified victim to first-specified offender, Honolulu city and county, 1977-1983.

Relationship	Primary			Secondary	Not estab.	Total	
	Romantic triangle	Argument or fight	Misc. non-felony	Felony type		No.	%
Spouse	31.0%	13.3%	3.5%	—	—	30	10.0%
Other family	16.7%	4.2%	17.2%	—	3.0%	19	6.4%
Friend	28.6%	14.8%	3.5%	—	—	31	10.4%
Acquaintance	14.3%	29.7%	13.8%	16.7%	7.2%	57	19.2%
Stranger	4.7%	29.7%	17.2%	36.1%	4.3%	59	20.0%
Unknown	4.7%	8.3%	44.8%	47.2%	85.5%	101	34.0%
Total %	100.0%	100.0%	100.0%	100.0%	100.0%	—	100.0%
No. incidents	42	121	29	36	69	297	—

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the U.S. in 1980. Within the United States, homicide rates in 1980 ranged from a low 0.7 per 100,000 in South Dakota to a high of 31.5 in the District of Columbia.[1]

The victim rates for male Hawaiian, and the offender rates for male Hawaiian, Samoan, and "other" ethnic groups all exceed the 1980 national male rate of 15.4 per 100,000 population. For females, the victim rates for Korean, Hawaiian, and Samoan, and the offender rate for Samoan exceed the 1980 national female rate of 4.3 per 100,000 population (Table 1).

While there has been considerable variation in annual rate of homicide in Honolulu city and county since 1972, the overall rate for this period has remained steady at 6.5 per 100,000 population. There is no trend to indicate either increase or decrease of the rate during this period.

The general homicide pattern in Honolulu city and county resembles the national pattern in sex and age characteristics and in circumstance. The proportion of Honolulu homicides involving an argument or fight (41%) was the same as that for the nation in 1980 (42%), but the proportion involving personal quarrels and romantic triangles in Honolulu (15%) was much higher than the national proportion in 1980 (2%).[1] The proportion of secondary (felony associated) homicides in the U.S. in 1980 was 18%,[1] while for Honolulu 1977-1983 it was 12%. Honolulu city and county has few, if any, known homicides associated with gangland organized crime, more prominent in the larger U.S. metropolitan areas.[3, 4]

Ethnic differences, while apparent in Honolulu, are less marked than in the rest of the nation, where 91% of primary homicides in 1980 involved victims and offenders of the same ethnicity.[1] The comparable proportion for Honolulu city and county was 45%. The ethnic pattern in Honolulu, with high rates in Hawaiian and Samoan populations, does suggest a socioeconomic relationship, and perhaps association with recent migration and social adjustment. Pattern of weapon use differs between Honolulu and the nation, handguns being used in 30% of Honolulu homicides, and 50% over the nation; other firearms respectively, 10% and 12%; cutting and stabbing instruments, 23% and 19%; and other weapons, 34% and 19%. The prominence of personal weapons (hands, fists, and feet) in Honolulu homicides is notable.

Several questions raised by these data could be investigated further to aid in designing preventive efforts. The high proportion of homicides involving personal and family quarrels or romantic triangles cannot be explained from these data, but it does suggest an opportunity for social services to prevent a substantial proportion of homicides through family counseling and other forms of assistance. This would include efforts to prevent murder of young children by family members. There were 6 such homicides involving children under the age of 5 years in Honolulu city and county between 1977-1983.

It has been proposed by Jason et al.[2] that primary homicides should be the main focus of preventive efforts. These homicides occur mostly between noncriminal acquaintances, involve an argument, and take place at home. Prevention measures could be approached in 3 broad areas: intrafamilial violence, extrafamilial violence, and male patterns of aggression.[2] The key Honolulu populations of concern in intrafamilial violence include young adults, and the very young and very old, and, in extrafamilial violence, teen-age males. Knowledge from research into male aggression, family violence,[5] physical abuse of children,[6] and other violent behaviors associated with homicide needs to be applied. In Detroit, research on kinship and homicide suggests that most homicides are impulsive, and are overreactions to situations.[7]

Primary homicides mainly involve noncriminal offenders and are mostly un-

TABLE 7.

Percentage distribution of homicides for first-specified victim and offender by type of homicide and by place of occurrence, Honolulu city and county, 1977-1983.

Place	Primary			Secondary	Not estab.	Total	
	Romantic triangle	Argument or fight	Misc. non-felony	Felony type		No.	%
Residence	69.0%	40.5%	44.8%	36.1%	24.6%	121	40.7%
Sidewalk, parking lot, alley	9.4%	31.4%	10.4%	33.3%	27.5%	76	25.6%
Motor vehicle	2.4%	7.4%	14.0%	11.1%	16.0%	29	9.8%
Worksite	4.8%	—	3.4%	11.1%	4.3%	10	3.4%
Hotel	4.8%	1.6%	3.4%	2.8%	—	6	2.0%
School	2.4%	—	3.4%	—	—	2	0.7%
Prison	—	1.6%	10.4%	—	1.4%	6	2.0%
Beach/park	4.8%	6.6%	3.4%	2.8%	11.6%	20	6.7%
Remote rural	—	1.0%	3.4%	2.8%	11.6%	11	3.7%
Unknown	2.4%	9.9%	3.4%	—	3.0%	16	5.4%
Total %	100.0%	100.0%	100.0%	100.0%	100.0%	—	100.0%
No. incidents	42	121	29	36	69	297	—

TABLE 8.

Percentage distribution of primary and secondary homicides by weapons used and by sex of the first-specified victim and sex of the first-specified offender, Honolulu city and county, 1977-1983.

Weapon	Primary				Secondary[1]		Total[2]	
	MV		FV		MV	FV[3]		
	MO	FO	MO	FO	MO	MO	No.	%
Handgun	32.6%	47.4%	36.0%	—	20.0%	—	88	29.6%
Rifle	8.4%	10.5%	8.0%	25.0%	—	—	17	5.7%
Shotgun	1.1%	—	2.0%	—	—	—	5	1.7%
Gun, unspecified	1.1%	—	—	—	—	—	9	3.0%
Cutting or stabbing	26.3%	26.3%	18.0%	25.0%	6.7%	33.3%	70	23.6%
Other weapon	30.5%	15.8%	36.0%	50.0%	66.7%	66.7%	101	34.0%
Unknown	—	—	—	—	6.7%	—	7	2.4%
Total%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	—	100.0%
No. incidents	95	19	50	4	15	3	297[2]	—

[1]There were no secondary (felony associated) homicides with a female offender, 1977-1983.

[2]Includes 111 homicides where sex of the first-specified offender was unknown, and/or where primary/secondary was not established.

[3]Male victim = MV, female victim = FV, male offender = MO, female offender = FO.



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premeditated; these can therefore only be affected indirectly by campaigns to reduce crime generally in the community, or by the possible deterrent effect of more severe punishment, such as the death penalty. Primary homicides can be reduced in frequency by a combination of measures aimed at directly curbing behaviors that increase the risk of killing, by strengthening values that are in opposition to hate and violence, and by reducing the presence of especially lethal weapons, such as handguns. As males are offenders 8 times more often than females, males are clearly of primary concern. Yet perhaps we should ask: what is it about women that leads them to be offenders so much less often than men?

Consumption of alcoholic drinks is often reported in Honolulu police files as being associated with the circumstances of homicide. However, this documentation is not routine nor is it standardized. There is a need to collect data on alcohol in relation to homicide in a systematic way and then to investigate the nature of the relationship.

In Honolulu, the cross-ethnic patterns of homicide suggest that ethnicity by itself is not a major factor, and that other social conditions that lead to violence are at least as important. Ethnicity should be investigated, however, to explore the ways in which the different communities in Hawaii may perceive arguments, conflict resolution, violence, and killing. Different preventive measures may be appropriate for communities of different ethnic background, socioeconomic level, and length of residence. Handguns are the single most commonly used weapon in Honolulu homicides; policies which reduce the presence of these weapons in the community will help reduce the frequency of all homicides.[8] At the same time, the frequent use of hands and fists requires special study to find ways to control arguments and violent behavior that may lead to such abuse. Besides searching for specific preventive measures, effort must be given to changing the general social climate of violence. Television, films, and major sports give great emphasis to homicide and other mayhem, and particularly to a glorification of male aggression. It is with this aspect of the cause of homicide, as a serious and complex health problem, that Somers called on the medical profession to especially concern itself.[9] It is up to health professionals to undertake the applied research needed to develop effective specific means of primary homicide prevention.

TABLE 9.
Percentage distribution of primary homicides by place of occurrence and by relationship of first-specified victim to first-specified offender, Honolulu city and county, 1977-1983.

Place	Relationship					
	Spouse	Other family	Friend	Acquaintance	Stranger	Unknown
Residence	80.0%	70.6%	67.7%	41.3%	14.0%	36.0%
Sidewalk, parking lot, alley	—	17.6%	12.9%	21.7%	58.1%	12.0%
Motor vehicle	6.7%	—	6.5%	4.3%	7.0%	20.0%
Worksite	—	—	3.2%	2.2%	—	4.0%
Hotel	—	—	3.2%	—	4.7%	8.0%
School	—	—	—	2.2%	—	4.0%
Prison	—	—	—	6.5%	2.3%	4.0%
Beach/park	6.7%	5.9%	3.2%	8.7%	2.3%	8.0%
Remote rural	—	—	—	2.2%	2.3%	—
Unknown	6.6%	5.9%	3.3%	10.9%	9.3%	4.0%
Total %	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
No. incidents	30	17	31	46	43	25

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REFERENCES

1. U.S. Department of Justice, Federal Bureau of Investigation: *Uniform Crime Reports for the United States, 1980.* Washington, D.C.: Government Printing Office, 1982.
2. Jason J, Flock M, Tyler CW: Epidemiologic characteristics of primary homicides in the United States. *Amer. J. Epidemiology,* 117: 419-428, 1983.
3. Rushforth NB, Ford AB, Hirsch CS, et al.: Violent death in a metropolitan county: changing patterns in homicide (1958-74). *New Eng. J. Med.,* 297: 531-538, 1977.
4. Mumford RS, Kazer RS, Feldman RA, et al.: Homicide trends in Atlanta. *Criminology,* 14: 213-231, 1976.
5. Gelles RJ: Violence in the family: a review of research in the '70s. *J. Marriage Family,* 42:873-885, 1980.
6. Gil DG: Physical abuse of children: findings and implications of a nationwide survey. *Pediatrics,* 44: 857-864, 1969.
7. Daly M, Wilson M: Homicide and kinship. *Amer. Anthropologist,* 84: 372-378, 1982.
8. Cook PJ: The effect of gun availability on violent crime patterns. *Annals Amer. Acad. Polit. Soc. Sci.,* 455: 63-79, 1981.
9. Somers AR: Violence, television and the health of American youth. *New Eng. J. Med.,* 294: 811-817, 1976.

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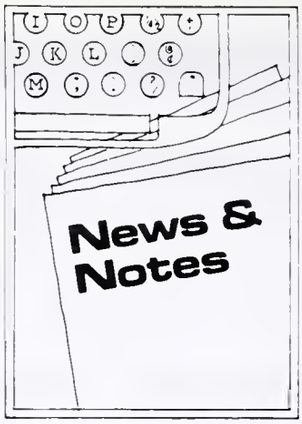
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Henry N. Yokoyama, M.D.

Hawaii M.D.s in California Public Health Positions

In 1982, 2 Kauai physicians moved to California to assume positions in public health. **Ronald Hattis**, a family physician in Hanapepe, 1972-82, and previously associated with the Hawaii Department of Health and U.H. School of Public Health, became director of maternal, child, and adolescent health for Kern County (center of California's oil empire, population 420,000, area the size of the state of Hawaii).

In October 1983, less than a year and a half later, Hattis was elected president of the California Conference of Local Directors of Maternal, Child and Adolescent Health (representing the leadership in this field from 61 local health departments). Hattis, an associate clinical professor of Family Practice and Community Health at John A. Burns School of Medicine, continues to teach family practice residents part-time, and in April 1984 was named an assistant clinical professor at the University of California, Irvine, School of Medicine as well.

Robert Melton, Kauai district health officer, 1975-82 (the position has remained unfilled since then), left the Island at about the same time to become the public health director for Monterey County (site of scenic Carmel and Monterey, and of several Steinbeck novels). In November 1983, also after barely a year and a half in his new state, Melton was elected secretary of the Health Officers Association of California (representing the same 61 local health departments).

Hattis and Melton, who interned together with the Public Health Service and then both served in the Epidemic Intelligence Service and obtained master's degrees in public health, have led parallel career courses for some time.

In April 1983, Melton was joined by **Ruggles Stahn**, who had recently completed a preventive medicine residency, including a master's in public health, at the University of Hawaii. Stahn became Monterey County's chief of preventive medicine. Like Hawaii, the Monterey area is a tourist mecca by the ocean, which should help mitigate Melton's and Stahn's

nostalgia for the Islands.

All 3 physicians seem satisfied with their new roles, and the California public health establishment has clearly welcomed them with open arms.

Hattis notes that medical practice in Hawaii, with its multi-racial population, its mixture of medical payment systems, and its influx of immigrants and imported diseases, was a good preparation for dealing with health problems in California. Writes Hattis, "California is becoming more like Hawaii in these respects every year."

Sportsmen

Golfers: The HCMS Annual Golf Tournament will be held at Kaneohe Klipper Club on Thursday, September 20. . . The committee is encouraging spouses to participate . . . Contributors thus far include Island Termite ($200); Bank of Honolulu (safe deposit box for 1 year); and 2 months free beeper service from the Physicians Exchange . . . (Report by Bill Dang)

A Sportsman's Prayer: (From Ann Landers' column: How to hit the curve ball)

Prayer for Bad Times:

Dear God: Help me be a good sport in this game of life. I don't ask for an easy place in the lineup. Put me anywhere you need me. I only ask that I can give you 100 percent for everything I have. If all the hard drives seem to come my way, I thank you for the compliment. Help me remember that you never send a player more trouble than he can handle.

And help me, Lord, to accept the bad breaks as part of the game. May I always play on the square, no matter what the others do. Help me study the Book so I'll know the rules.

Finally, God, if the natural turn of events goes against me and I'm benched for sickness or old age, help me to accept that as part of the game, too. Keep me from whimpering that I was framed or that I got a raw deal. And when I finish the final inning, I ask for no laurels. All I want is to believe in my heart that I played as well as I could and that I didn't let you down.

Richard Cardinal Cushing of Boston
Printed August 4, 1973

* * *

The Kuakini Medical Staff Golf Tournament was held on a beautiful Thursday afternoon in April at Mid Pac CC with 36 aspiring participants . . . The weather was perfect and playing conditions excellent . . . How else can we explain **Wayne Nadamoto, Don Maruyama, Glenn Kokame,** and **Dick Omura** tied for first place with net 67s; another four, **Ike Nadamoto, Frank Fukunaga, Garth Morimoto,** and **D. Matsushige** tied at net 68s . . . Next in line were three net 70s: **Paul Sunahara, Francis Oda,** and **Mike Okihiro** . . . And three more with net 73s were **Ed Izawa, Tad Iwanuma,** and **Herb Takaki** . . .**Al "Tiger" Paraz** was alone at net 74 . . . We discovered that at least someone had an honest handicap, for **Ike Kawasaki** won high gross honors with a 110. **James Dow** was closest to the pin on the 4th hole and **Ike Nadamoto** was closest to the 11th hole . . . The generous donors included **Tom Kobara, Frank Fukunaga, Dave Sakuda,** et al. . . .

Nobu Nakasone, whose handicap is down to 10, is still an ardent disciple of Ben Hogan . . . He has reread Hogan's "Fundamentals of Golf" at least a thousand times and has always used Hogan clubs . . .

Runners: One week after **Duncan MacDonald,** 35, moved back to Hawaii after living in California the past 7 years, he won the 7th annual Norman K. Tamanaha Memorial 15-kilometer run on April 8 with a winning time of 46 minutes, 57.2 seconds . . .

Life in These Parts . . .

The Hawaii Medical Association received the following letter from a Margery Lee, social worker, on March 8, 1984: RE: **Dr. Andrew L. Morgan:** "This letter is to recognize and commend the services of Dr. Andrew Morgan. Recently our agency became involved with a family because of medical neglect. The family lacked resources and their child's medical needs were being neglected . . . As part of our service plan with the family, we sought out Dr. Andrew Morgan, who previously treated the child via the Queen Emma Clinic. Dr. Morgan agreed to provide the follow-up services free and performed the corrective surgery of the child this past month."

Our dear friend and mentor, **Kazuo Miyamoto,** physician-author, was born in 1900 on a Big Island plantation . . . His novel, "Hawaii: End of the Rainbow," written more than 20 years ago still is popular and available in pocketbook form in the bookstores . . . The latest book by the prolific author is titled "One Man's Journey: A Spiritual Autobiography" and is a summation of his spiritual life as a Shin buddhist . . . Someone more astute writes: "It is totally different in style and scope from his popular novel or his travel books. It reaches out to the reader of any age or background with a frankness, a candor, a depth. Written over a period of some 50 years, it reads with an ease and swiftness to distill in words the very private events of the life of a man for whom faith has been a vital daily adventure . . .?

In March, HMA warned the public about a Dr. Gorman or Dr. Gordon of the Masters & Johnson clinic calling from the university and asking questions of a sexual and intimate nature . . . (Perhaps the caller had not read the latest time magazine which reports that the sexual revolution was over . . .)

When state auditor Clinton Tanimura recommended that the state Board of

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Medical Examiners authorize licensure of foreign physicians with only one year of graduate training instead of the required foreign medical graduates' exam and three years of work experience, board chairman **Ben Azman** literally said "No way!" "The board believes maintaining the standards is the best way to avoid becoming a dumping ground for physicians who are inadequately trained in programs outside this country . . . Since Hawaii is so beautiful, there is, in general, no shortage of physicians in this state. After all, Hawaii is a special place and its people should be protected from the rising tide of mediocrity."

Straub's OB/Gyn man **Fugate "Don" Garty**, 63, delivered his 10,000th baby in March . . . Don says delivering babies gives him a real satisfying feeling . . . "Practicing is really an extension of your own life. If you want to make it a good part, you've got to enjoy it. If you're in it just to buy your Mercedes or Porsche, you're going to be disappointed."

Medical historian **Charley Judd** recalls how on December 2, 1959, a team of 14 physicians, nurses, and technicians performed the first open-heart surgery at Queen's . . . Thoracic surgeon **Scott Brainard** headed the team and assistant surgeons included **Carl Mason, Albert Chun,** and **Noboru Akagi. Paul Gebauer** operated the heart-lung he had developed and cardiologist **Unoji Goto** monitored the equipment . . . **John Hanley** was the anesthesiologist. "Great strides in health care have been made over the past 25 years in all fields, notably in kidney dialysis and kidney transplants; in combination-drug chemotherapy for cancer; in the technology that has made it possible to save more and more premature infants and those with birth defects; in diagnostic techniques that are safer and more accurate." Charley credits **Livingston Wong** with the emergency medical services system . . . "Cancer and heart disease are still the two top killers . . . but because people are living longer, they are beset by other diseases . . . Technology's advances have brought with them questions that don't have easy answers . . . Doctors today need Solomon's wisdom in order to make humane and logical decisions . . . Rising costs, too, have raised the question of who is to benefit from certain astronomically costly procedures, and who is not . . . Along with the advances in technology, costs of medical care also have advanced—to the point where the federal government in 1982 began radically revising the payment system for the Medicare patients—one based on a flat, prospective rate to be paid for each of some 467 different categories of illness . . . Some observers say this new system will radically change the way medical care is delivered, that quality of care will suffer, and that a lot of hospitals may go belly-up . . ." (Ed.: Sorry Charley, we wish we could have printed your superb panoramic interview with Pat Hunter *in toto* . . . Solomon himself couldn't have summarized any better the past 25 years of medicine in Hawaii . . . And we may need his wisdom to get us out of this TEFRA mess . . .)

In February, the AMA's 12-member board of trustees voted unanimously to help with the nation's economy by voluntarily freezing physician fees for one year. About 250,000 of the 400,000 physicians belong to the AMA. AMA board chairman **John Coury Jr.** feels that 85 percent will comply . . .

Three visitors to Kauai drowned in one month and increased the drowning for the Island to 20 visitors in 4 years. Wilcox Hospital pathologist **Rex Couch** wonders, aside from the obvious drownings, how many visitors die just because of swimming in the ocean. Rex asks how many of the cardiac arrest cases at the hotels are the result of more exercise than one is used to, or more strain because one didn't know the strength it takes to fight the waves . . . Rex feels that so many people come here to eat, drink, and exercise more than they do normally—with less sleep—while at the same time suffering from tremendous psychological stress having crossed three to six time zones to get here . . .

For the past two years, Bert Lum, chairman of the University of Hawaii at Manoa John A. Burns School of Medicine's Department of Pharmacology, and his researchers have been working with calcium channel blockers to see if they can prevent damage to the heart and blood vessels in shock. The project stemmed from reports of reduced cardiac damage when calcium channel blockers were given in an MI. "We hypothesized that calcium channel blockers work by reducing calcium overload which results in cell death . . . "

We were saddened by the death of **C. Henry Kempe,** 61, whose brilliant visiting professor series at the old Children's Hospital Monday noon lectures filled the dining room with standing-room-only audiences . . . Henry had been nominated in January for a 1984 Nobel Prize for his research and efforts in child abuse. He had received numerous national awards for his work, including the 1982 Genesis Award and the Howland Award. Henry had moved to Hawaii in 1977 but continued to travel back to Denver where he was professor of pediatrics and microbiology at the University of Colorado School of Medicine . . . The world has lost a physician's physician . . .



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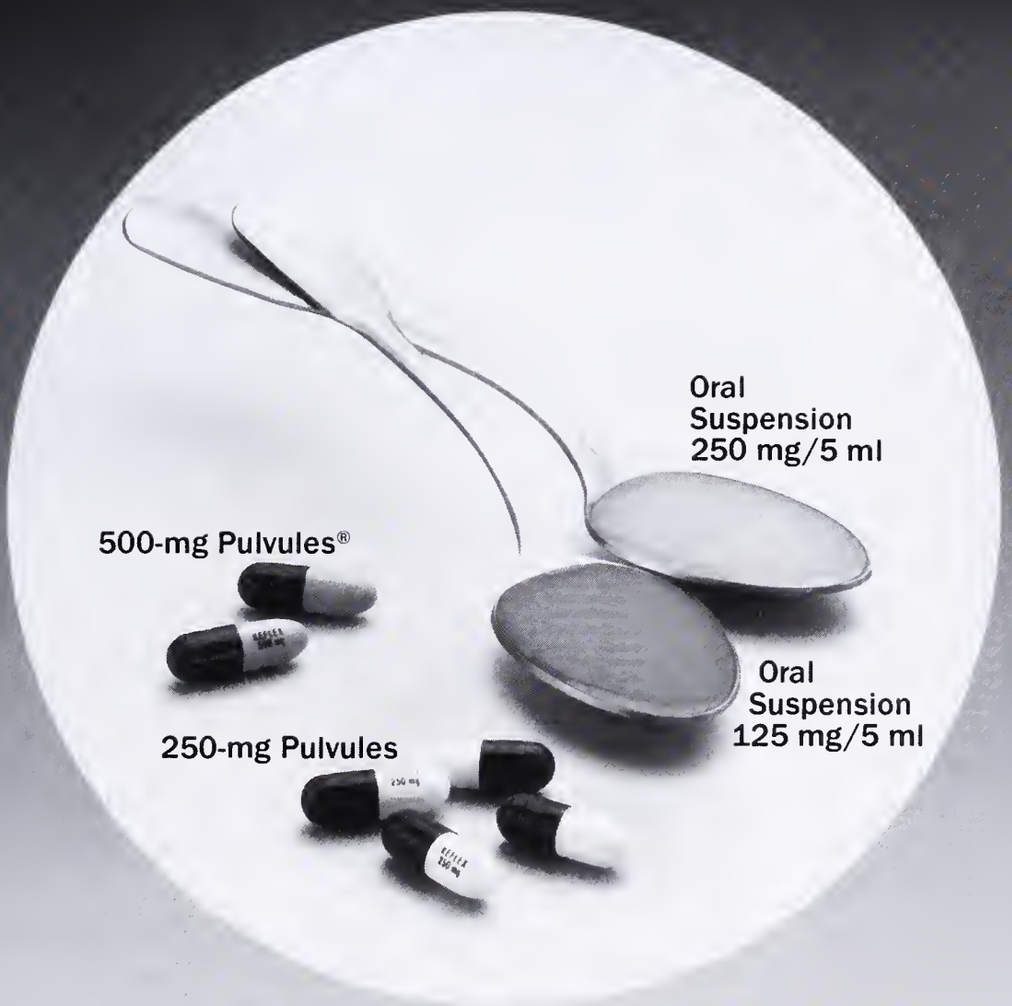
Thanks to the efforts of the county auxiliaries, a $3,780 check for the AMA-ERF program was given to the medical school at the University of Hawaii at a ceremony at Kennedy Theater in May. **Ella Edwards** made the presentation to Dr. Terence Rogers, dean of the school, on behalf of the state auxiliary. Fundraisers are planned by the county auxiliaries during the year.

National Auxiliary Convention

As delegates from Hawaii, **JoAnn Lundborg,** president, and **Lila Johnson,** Honolulu County Auxiliary, attended the June meeting of the AMA Auxiliary in Chicago. Highlights at the convention were speeches by Hugh Sidey, Washington political editor of Time magazine, on "Political Update '84"; Jane E. Brody, health columnist for the New York Times, on "Taking Charge of Your Life"; and Domeena Renshaw, M.D., psychiatrist, on "Physician and Family."

Billie Brady of South Carolina was installed as president of the AMA Auxiliary, and the Hawaii Auxiliary is looking forward to meeting her in December. She will be a guest speaker at the annual meeting here December 6. The AMA interim meeting is to be held in Honolulu December 2-5.

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A review . . .

Acupuncture Practice in Hawaii

Edith E. Trott, M.A., M.P.H.*

• *In 1974, acupuncture became legally recognized as a form of medical treatment in the state of Hawaii. As of April 1983, there were 87 certified practitioners, of which only 37 were practicing on Oahu, and 6 on the other Islands, or 49% actually practicing in Hawaii. Of the 37, 8 practiced part-time or used acupuncture in conjunction with another profession, while 29 used acupuncture or a combination of acupuncture and herbs as a major occupation. Thus, only 33% of the certified acupuncturists are employed full time in this profession on Oahu. All of the Oahu practitioners were Chinese, Japanese, or Korean; however, their ethnic background did not seem to affect the ethnicity of their clients. The clinical location had more bearing on the type of patient, with those businesses in Waikiki and Ala Moana getting a greater proportion of Caucasian patients than those in Chinatown or in private residences. The 2 major concentrations of acupuncturists were in Chinatown and Moiliili. Most of the clinics in Chinatown were run by Chinese, while those in Moiliili were owned by Japanese or Koreans. The Waikiki acupuncturists were Chinese. Those operating in their own residences were Japanese.*

The Chinese medical system is one of the oldest in the world, dating back as early as 2000 B.C. By 200 B.C., classical medical texts on clinical medicine had been written and an extensive system of diagnosis, prognosis, and therapeutics had been developed. Chinese oral medicine, moxibustion, and acupuncture spread throughout most of Asia, and today in many countries these systems flourish alongside local traditional medicine and western medicine. In China "western" medicine is common, although it has not replaced traditional medical practitioner, but functions alongside herbalism and acupuncture. On the other hand, the western world is becoming more aware of acupuncture as a method of health care. It is accepted in Canada and in some European countries, and has been certified in 3 U.S. states: Hawaii, California, and Nevada.

The Chinese began to settle in Hawaii by the late 1700s. They opened shops, built temples, and practiced their traditional forms of medicine, pulse diagnosis, herbs, acupuncture, and moxas therapy. Many eventually opened businesses outside of Chinatown, entered almost every profession, and worked in government service. Many Chinese have turned to western medicine and some have became prominent physicians, while others have continued along more traditional lines, using herbs and acupuncture.

In June 1974, the Hawaii legislature passed a law making the practice of acupuncture legal in the state. The law defines the practice of acupuncture as "treatment of the human body by means of mechanical, thermal, or electrical stimulation effected by insertion of acupuncture needles into the human body by piercing the skin for the purpose of controlling and regulating the flow and balance of energy."

Led by several prominent members of the Chinese community, a system of licensing was established to prevent improperly trained acupuncturists from practicing. No one can practice acupuncture or advertise as being qualified to practice, either gratuitously or for pay, without a valid license obtained from the Hawaii Board of Acupuncture. Physicians and dentists licensed in the state of Hawaii are exempt from this licensing. To obtain a license, the applicant must be a legal resident of Hawaii, complete an application, pay an examination fee, have two people complete a "Certificate of Moral Character" form, and submit a physician's statement certifying that the applicant is free of communicable diseases, along with blood test results for syphilis, and a chest X-ray or skin test results for tuberculosis. The applicant must also provide proof of adequate knowledge of acupuncture, either through formal education and training, or training by a private tutor. Both written and practical examinations are administered twice a year to those fulfilling the above requirements.

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Methods

This paper is based on a study to determine the location and the utilization of certified acupuncturists on Oahu. A 3-part questionnaire was developed. The first part of the interview schedule was concerned with the training of the acupuncturist, years of professional experience, additional skills beside acupuncture, type of equipment used, professional associates, advertising practices, and office hours. A second part gathered information on their clients, and the third part dealt with the physical layout of the shop or clinic.

A list of all Hawaii-certified acpuncturists was obtained from the Board of Acupuncture, Department of Commerce and Consumer Affairs, Professional and Vocational Licensing Division, State of Hawaii.

Each establishment was visited, at which time information on the physical facilities was recorded. If the practitioner was available, he or she was interviewed at that time; if not available after the second visit, an interview was done by telephone.

Location

All of the acupuncturists interviewed, with few exceptions, were extremely cooperative, and most were more than eager to offer information. With only 2, the language barrier prevented a proper interview. All the others spoke at least some English, or someone who could translate was present. Generally speaking, the older practitioners tended to be keen to convince the interviewer of the effectiveness of acupuncture, while the younger ones did not appear to feel this need.

As of April 1983, the acupuncture board listed 87 certified acupuncturists (Table 1). Of these, 49 were interviewed (37 practicing and 12 not practicing). Then practicing on the Island of Oahu were 37. All were located in the immediate area of Honolulu, except for 2 in Wahiawa. One was a chiropractor using acupuncture in conjunction with this practice, and the other practiced part-time in a family dental clinic.

TABLE 1.
Status of Hawaii certified acupuncturists, April 1983

Practicing on Oahu	37
Located on other Hawaiian Islands	5
Moved from Hawaii	28
Recently certified, not established	2
Not practicing	12
Deceased	1
Status unknown	2
Total	87

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acupuncturists in the Honolulu area: Chinatown and Moiliili. In Chinatown, there were 7 acupuncture clinics in the area between Fort Street and the Chinese Cultural Center. Many of these are family-owned and -operated with both husband and wife certified, and often the older children as well. Along King Street and Young Street between Keeaumoku and Wiliwili were 7 clinics. An additional one was on Pensacola. Another concentration, 4 clinics, was near Ala Moana shopping center. This last group and those on King, Young, and Pensacola were operated by individuals or with associates, not by family groups. A gynecologist in the Queen's Physicians Office Building practiced acupuncture, but was mainly interested in its research aspects. There were 2 clinics in Waikiki, a large one serving mostly tourists, the second of fair size but concentrating more on the selling of herbs. Another large clinic was near King Street and University. This one also served as a school for acupuncturists. There were two acupuncturists practicing in private residences, one in Kamehameha Heights and one in Hawaii Kai.

The location of the 33 acupuncturists not on Oahu is shown in Table 2.

TABLE 2.
Location of non-Oahu Hawaii-certified acupuncturists

Island of Hawaii	4
Island of Maui	1
State of California	17
State of New York	2
State of Oregon	2
State of Texas	1
State unknown	1
Germany	2
Japan	2
Taiwan	1
Total	33

Facilities

The facilities varied from small, plain clinics to elaborate ones. The majority were small, with several straight-backed chairs for patients, a desk, and a plain curtain separating the waiting room from the treatment area. The walls contained various diplomas, certificates, and very often acupuncture charts. The more elaborate ones were carpeted, had more comfortable chairs, pictures, and in one soft music played.

Those in Chinatown, with one exception, were located in the older sector. Thus, the buildings were old and 2 to 3 stories high. Acupuncturists located here were on street level, and easily located by street signs. One of the larger clinics, containing several treatment rooms, was in the new Cultural Center. Outside of Chinatown, a number of the acupuncturists were located in office buildings, some in very new and modern facilities. Others were in small commercial centers and 2 had practices established in their homes.

As most of the acupuncturists regularly recommend the use of herbs as well as acupuncture, 15 (41%) also had relatively large herb shops associated with their clinics. The herbs were usually kept in the traditional manner of wooden drawers lining the walls or in individual glass jars. A glass-topped counter near the front of the clinic usually contained boxes of commercially prepared potions.

Survey Results

Nearly 50% of the certified acupuncturists practicing on Oahu were Chinese, 38% were Japanese, and the remainder Korean. Of the practicing acupuncturists, 8 were women and 29 were men. Four practitioners used acupuncture only in conjunction with their main practice: 1 gynecologist, 2 chiropractors, and 1 physical therapist. One was a medical technologist, and only used acupuncture at home upon request. A number of the acupuncturists also did pulse diagnosis, cupping, moxabustion, and massage.

The ethnic background of the patients seemed to be determined by the location of the clinic more than by the ethnicity of the practitioner. The ones in Waikiki had mostly "haole" (white) tourists as patients, especially one that gave demonstrations in one of the tourist shops. The clinics near Ala Moana also served a high percentage of haoles. Those in Chinatown or in private homes tended toward a higher number of Asian clients. All, even the non-English-speaking practitioners reported treating whites. Apart from the United States, Canada was most often mentioned as providing non-Asian clients. The lack of correlation between the nationality of the practitioner and his patients has been mentioned before in studies done in Hawaii on practices of traditional healers other than acupuncturists.

The Japanese and Chinese technique of acupuncture, as well as the equipment, varies somewhat; the Chinese generally order their equipment from mainland China, Hong Kong, or less commonly Taiwan, while the Japanese order from Japan. The Japanese needles are of a finer gauge. One clinic that caters mostly to whites now is using disposable needles, and in many of the clinics electro-acupuncture is being used.

Nine of the acupuncturists learned their practice in mainland China, 8 in Japan, 5 in Taiwan, 8 from tutors in Hawaii, and 1 in Korea. Many of them return to Taiwan, Hong Kong, or Japan frequently for additional training or conferences.

Most of the clinics were open 6 days a week, Monday through Saturday, and the usual hours of business were 9-12 and 2-5. Some were "by appointment" only, or mornings only. In general, most patients were obtained by recommendation of other clients. Some of the clinics advertise, especially in the yellow pages of the tele-

phone book, or in a local Chinese newspaper, and one or two occasionally by radio. Most claim to see patients of all age groups, but infants are the least frequently seen, while the elderly are the most commonly seen. For the acupuncturists this seems reasonable, as the most common complaints treated are chronic pain (especially of neuromuscular and skeletal origin involving arms, neck, back, and shoulders), arthritis, migraine headaches, and asthma. Most stated that their patients usually had long-standing serious problems and sought an acupuncturist as a last resort. They felt that this was due to lack of familiarity with this form of treatment and to the fact that most physicians do not recommend acupuncture.

In general, the clinics did not appear very busy, but early morning and late afternoon were the most active times. Most practitioners feel there has been a decline in the number of patients seeking acupuncture treatment, although a larger group of people is recognizing the potentials offered. The 2 associations for acupuncturists, the Hawaii Association of Certified Acupuncturists (open only to certified acupuncturists) and the Acupuncture Association of Hawaii, are active in furthering the education of their members, setting high standards for practice, and informing the general public of the value and potential of acupuncture.

Finally, it should be stressed that the 37 certified practicing acupuncturists interviewed for this paper did not represent the total number of legally practicing acupuncturists on Oahu at the time of this study, as physicians and dentists licensed in the state of Hawaii are exempt from this certification. Thus, the acupuncturists considered in this paper were those certified as acupuncturists, and, for the majority of the practitioners, it was their primary occupation.

REFERENCES

1. Bowers JZ, Purcell EF: Medicine and Society in China. Philadelphia. Wm. R. Fell Co. 1974.
2. Huard P, Wong M: Chinese Medicine. New York. McGraw Hill. 1968.
3. Kleinman A, Kunstadter P, Alexander ER, Gale JL: Medicine in Chinese Cultures: Comparative Studies of Health Care in Chinese and Other Societies. Washington, D.C. U.S. Government Printing Office. 1975.
4. Porkert M: The Intellectual and Social Impulses Behind the Evolution of Traditional Chinese Medicine. In Asian Medical Systems: A Comparative Study. Charles Leslie, ed. Berkeley. U. of Calif. Press. 1976.
5. Snyder P: Ethnicity and folk healing in Honolulu, Hawaii. *Soc. Sci. Med.* 158. pp. 125-132. 1981.
6. Wallnofer H, von Rottauscher A: Chinese Folk Medicine. New York. Bell Publ. Co. 1965.
7. Ying K: Chinese Medical Science in Practice. Hong Kong. King Ying Chinese Medical Office. 1964.
8. Young M: Hawaii's People from China. Honolulu. Hogarth Press. 1974.

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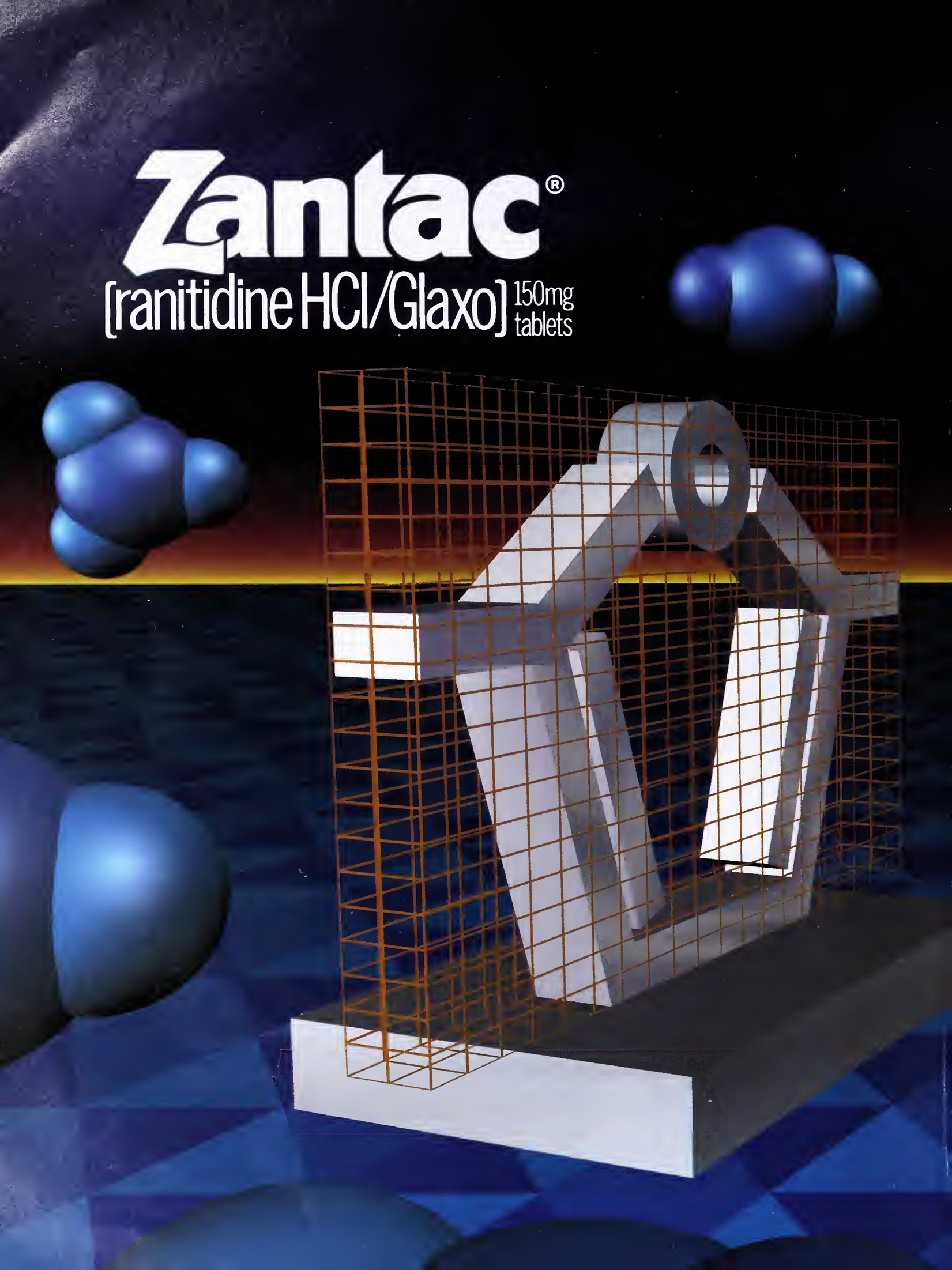
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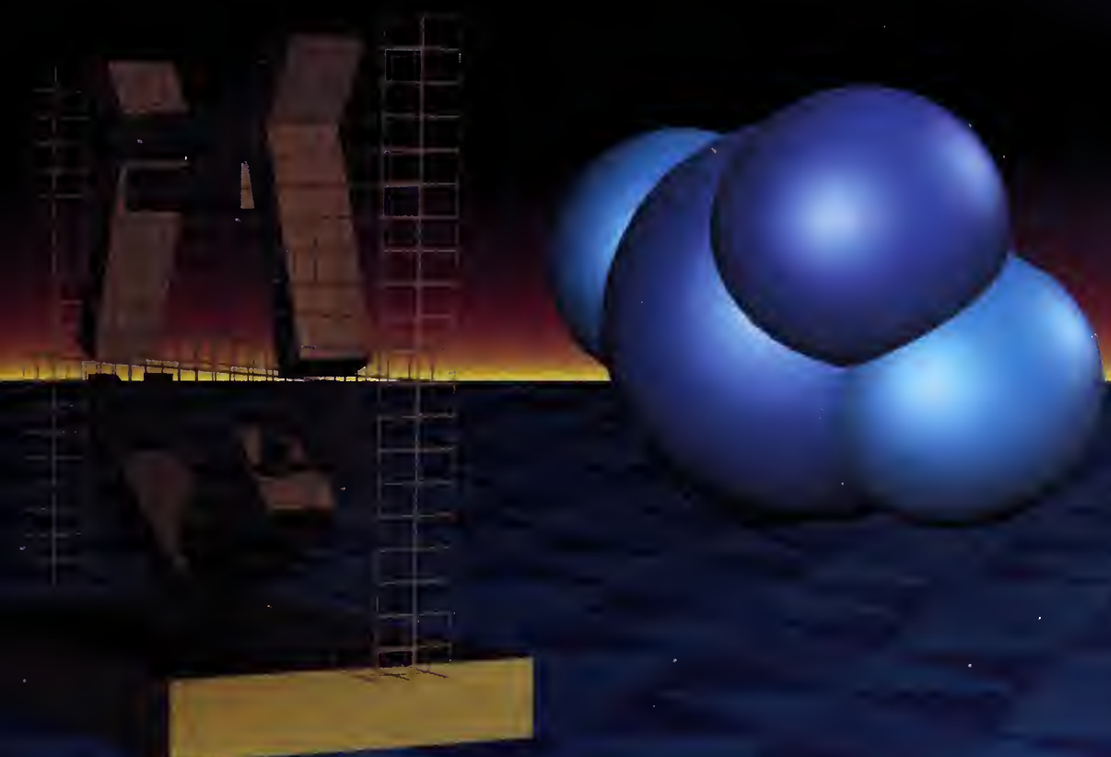
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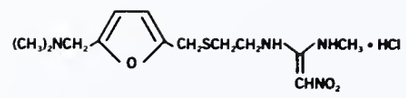
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DESCRIPTION: The active ingredient in ZANTAC® Tablets, ranitidine hydrochloride, is a histamine H_2 receptor antagonist. Chemically it is N[2-[[[5-[(dimethylamino) methyl]-2-furanyl]methyl]thio]ethyl]-N'-methyl-2-nitro-1, 1-ethenediamine, hydrochloride. It has the following structure:



The empirical formula is $C_{13}H_{22}N_4O_3S \cdot HCl$, representing a molecular weight of 350.87.

Ranitidine hydrochloride is a white to pale yellow granular substance which is soluble in water. It has a slightly bitter taste and sulphur-like odor.

Each tablet for oral administration contains 168 mg of ranitidine hydrochloride, equivalent to 150 mg ranitidine.

CLINICAL PHARMACOLOGY: ZANTAC® (ranitidine hydrochloride) is a competitive, reversible inhibitor of the action of histamine at the histamine H_2 receptors, including receptors on the gastric cells.

ZANTAC does not lower serum Ca^{++} in hypercalcemic states.

ZANTAC is not an anticholinergic agent.

Antisecretory Activity:

1. Effects on acid secretion:

ZANTAC inhibits both daytime and nocturnal basal gastric acid secretion as well as gastric acid secretion stimulated by food, histamine and pentagastrin, as shown in the table below.

Effect of Oral ZANTAC® on Gastric Acid Secretion

	Time After Dose, hrs.	% Inhibition of Gastric Acid Output by Dose, mg			
		75-80	100	150	200
Basal	Up to 4		99	95	
Nocturnal	Up to 13	95	96	92	
Betazole	Up to 3		97	99	
Pentagastrin	Up to 5	58	72	72	80
Meal	Up to 3		73	79	95

It appears that basal, nocturnal and betazole stimulated secretion are most sensitive to inhibition by ZANTAC, responding almost completely to doses of 100 mg or less, while pentagastrin and food stimulated secretion are more difficult to suppress.

2. Effects on other gastrointestinal secretions:

Pepsin: Oral ZANTAC 150 mg did not affect pepsin secretion. Total pepsin output was reduced in proportion to the decrease in volume of gastric juice.

Intrinsic factor: Oral ZANTAC 150 mg had no significant effect on pentagastrin-stimulated intrinsic factor secretion.

Serum gastrin: ZANTAC has little or no effect on fasting or postprandial serum gastrin.

3. Other pharmacological actions:

a. Hepatic blood flow reduced 20%. Significance unknown.

b. Gastric bacterial flora—increase in nitrate-reducing organisms, significance not known.

c. Prolactin—no effect (IV bolus) or less increase than cimetidine.

d. Other pituitary hormones—no effect on serum gonadotropins, TSH, GH. Possible impairment of vasopressin release.

e. No change in cortisol or aldosterone.

f. No effect on count, motility or morphology of sperm, androgen level, estradiol, testosterone.

g. No effect on penile erection, sexual arousal or ejaculation.

4. Pharmacokinetics:

ZANTAC is 50% absorbed after oral administration compared to an IV injection with mean peak levels of 440-545 ng/ml occurring at 2-3 hours after a 150 mg dose. The elimination half-life is 2.5-3 hours.

Absorption of ZANTAC is not significantly impaired by concomitant administration of food or antacids. Propantheline slightly delays and increases peak blood levels of ZANTAC, probably by delaying gastric emptying and transit time.

Serum concentrations necessary to inhibit 50% of stimulated gastric acid secretion are estimated to be 36-94 ng/ml. Following a single oral dose of 150 mg, serum concentrations of ZANTAC are in this range up to 12 hours. However, blood levels bear no consistent relationship to dose or degree of acid inhibition.

The principal route of excretion is the urine, with approximately 30% of the orally administered dose collected in the urine as unchanged drug in 24 hours. Renal clearance is about 410 ml/min, indicating active tubular excretion.

In man, the N-oxide is the principal metabolite in the urine; however this amounts to less than 4% of the dose. Other metabolites are the S-oxide (1%) and the desmethyl ranitidine (1%). The remainder of the administered dose is found in the stool.

The volume of distribution is about 1.4 L/kg. Serum protein binding averages 15%.

Clinical Trials:

Duodenal Ulcer

In a multicenter, double-blind controlled U.S. study of endoscopically diagnosed duodenal ulcers, earlier healing was seen in the ZANTAC®-treated patients as shown below:

	ZANTAC® +		Placebo +	
	Number Entered	Healed/ Evaluable	Number Entered	Healed/ Evaluable
Outpatients				
Week 2	149	54/147 (37%)*	146	29/137 (21%)
Week 4		109/148 (74%)**		68/137 (50%)

*p = 0.0014
**p = 0.0001
+ All patients were permitted prn antacids for relief of pain.

In these studies, ZANTAC-treated patients reported a reduction in both daytime and nocturnal pain, and they also consumed less antacid than the placebo-treated patients.

	Median number of daily doses of antacid	
	Ulcer Healed	Ulcer Not Healed
ZANTAC®	0.06	0.71
Placebo	0.71	1.43

During the clinical trials, some not healed at 4 weeks were rerandomized to either placebo or ranitidine, with the results after 4 weeks shown below.

Not healed on:	Retreated with:	Healed:
Placebo	Placebo	10/21
Placebo	Ranitidine	15/24
Ranitidine	Ranitidine	5/8
Ranitidine	Placebo	8/19

It can be seen that there are trends weakly favoring ranitidine but none of the differences are statistically significant.

Studies have been limited to short-term treatment of acute duodenal ulcer. Patients whose ulcers healed during therapy had recurrences of ulcers at the usual rates. There have been no systematic studies to evaluate whether continued treatment with ZANTAC (ranitidine hydrochloride) alters recurrence rates.

Pathological Hypersecretory Conditions

(such as Zollinger-Ellison Syndrome)

ZANTAC inhibits gastric acid secretion and reduces occurrence of diarrhea, anorexia, and pain in patients with pathological hypersecretion associated with Zollinger-Ellison Syndrome, systemic mastocytosis and other pathological hypersecretory conditions (e.g. post-operative, "short gut" syndrome, idiopathic). Use of ZANTAC was followed by healing of ulcers in 8 of 19 (42%) patients who were intractable to previous therapy.

INDICATIONS AND USAGE:

ZANTAC® (ranitidine hydrochloride) is indicated in:

1. Short-term treatment of active duodenal ulcer. Most patients heal within 4 weeks and the usefulness of further treatment has not been demonstrated. Studies available to date have not assessed the safety of ranitidine in uncomplicated duodenal ulcer for periods of more than 8 weeks.

2. The treatment of pathological hypersecretory conditions (e.g., Zollinger-Ellison Syndrome and systemic mastocytosis).

In active duodenal ulcer and hypersecretory states, concomitant antacids should be given as needed for relief of pain.

CONTRAINDICATIONS: There are no known contraindications to the use of ZANTAC® (ranitidine hydrochloride).

PRECAUTIONS:

General

1. Symptomatic response to ZANTAC® therapy does not preclude the presence of gastric malignancy.

2. Since ZANTAC is excreted primarily by the kidney, dosage should be adjusted in patients with impaired renal function (see Dosage and Administration). Caution should be observed in patients with hepatic dysfunction; ZANTAC is metabolized in the liver and, at present, the effects of hepatic disease on the metabolism of ZANTAC is unknown.

Laboratory Tests

False positive tests for urine protein with Multistix® may occur during ZANTAC therapy and therefore testing with sulphosalicylic acid is recommended.

Drug Interaction

Potentiation of warfarin-type anticoagulants has not been observed with concomitant ZANTAC administration. Likewise no clinically significant drug interactions have been observed between ZANTAC and theophylline or ZANTAC and diazepam. Drug interactions of this type are not expected since ranitidine does not significantly interact with the cytochrome P450 linked drug metabolizing enzyme system.

Carcinogenesis, mutagenesis and impairment of fertility

There was no indication of tumorigenic or carcinogenic effects in lifespan studies in mice and rats at doses up to 2000 mg/kg/day.

Ranitidine was not mutagenic in standard bacterial tests *(Salmonella, E. Coli)* for mutagenicity at concentrations up to the maximum recommended for these assays.

In a dominant lethal assay a single oral dose of 1000 mg/kg to male rats was without effect on the outcome of 2 matings per week for the next 9 weeks.

Usage in Pregnancy

Pregnancy Category B. Reproduction studies have been performed in rats and rabits at doses up to 160 times the human dose and have revealed no evidence of impaired fertility or harm to the fetus due to ZANTAC® (ranitidine hydrochloride). There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers

ZANTAC (ranitidine hydrochloride) is secreted in human milk. Caution should be exercised when ZANTAC is administered to a nursing mother.

Pediatric Use

Safety and effectiveness in children have not been established.

Use in Elderly Patients

Ulcer healing rates in elderly patients (65-82 years) were no different from those in younger age groups. The incidence rates for adverse events and laboratory abnormalities were also not different from those seen in other age groups.

ADVERSE REACTIONS

Headache has been found to be more frequent in ZANTAC®-treated patients (3%) than placebo-treated patients (2%). The following symptoms have been reported in ZANTAC-treated patients with a frequency of 1% or less: malaise, dizziness, constipation, nausea, abdominal pain and rash.

Decreases in white blood cell and platelet count have occurred in a few patients. These did not lead to cessation of treatment and were clinically insignificant. There have been no reported cases of agranulocytosis or aplastic anemia. Some small increases in serum creatinine have been noted in patients receiving ZANTAC (ranitidine hydrochloride).

Some increases (up to 5 times the upper limit of normal in one case) in serum transaminases and gamma-glutamyl transpeptidase have been reported. Rare cases of hepatitis have been reported.

In normal volunteers, SGPT values were increased to at least twice the pre-treatment levels in 6 of 12 subjects receiving 100 mg q.i.d. IV for 7 days, and in 4 of 24 subjects receiving 50 mg q.i.d. IV for 5 days. This dose-related effect of the IV formulation suggests that ZANTAC is potentially hepatotoxic. In placebo controlled studies of the oral formulation involving 2437 patients (1358 receiving ranitidine and 1079 patients receiving placebo), with most patients treated 4-8 weeks, there was no difference in incidence of SGOT-SGPT elevations between the 2 groups.

No clinically significant interference with endocrine or gonadal function have been reported.

OVERDOSAGE: There is no experience to date with deliberate overdosage. The usual measures to remove unabsorbed material from the gastrointestinal tract, clinical monitoring and supportive therapy should be employed.

Studies in animals receiving doses of ZANTAC® in excess of 225 mg/kg/d have shown muscular tremors, vomiting, and rapid respiration. Single oral doses of 1000 mg/kg in mice and rats were not lethal. Intravenous LD_{50} values in rat and mouse were 83 mg/kg and 77 mg/kg, respectively.

DOSAGE AND ADMINISTRATION:

Duodenal Ulcer

The current recommended adult oral dosage of ZANTAC® for duodenal ulcer is 150 mg twice daily, the only dose shown to speed healing of duodenal ulcer in U.S. clinical trials. Smaller doses have been shown to be equally effective in inhibiting gastric acid secretion in U.S. studies, and several foreign trials have shown that 100 mg b.i.d. is as effective as the 150 mg dose.

Antacids given concomitantly and as needed for relief of pain do not interfere with the absorption of ZANTAC.

Since 37% of patients can be expected to show complete healing at the end of two weeks, endoscopy at that time may spare many patients an additional period of treatment.

Pathological Hypersecretory Conditions

(such as Zollinger-Ellison Syndrome)

Recommended adult oral dosage: 150 mg twice a day. In some patients it may be necessary to administer ZANTAC 150 mg doses more frequently. Doses should be adjusted to individual patient needs, and should continue as long as clinically indicated. Doses up to 6 g/day have been employed in patients with severe disease.

Dosage adjustment for patients with impaired renal function.

On the basis of experience with a group of subjects with severely impaired renal function treated with ZANTAC, the recommended dose in patients with a creatinine clearance less than 50 ml/min is 150 mg every 24 hours. Should the patient's condition require, the frequency of dosing may be increased to every 12 hours or even further with caution. Hemodialysis reduces the level of circulating ranitidine. Ideally, the dosage schedule should be adjusted so that the timing of a scheduled dose coincides with the end of hemodialysis.

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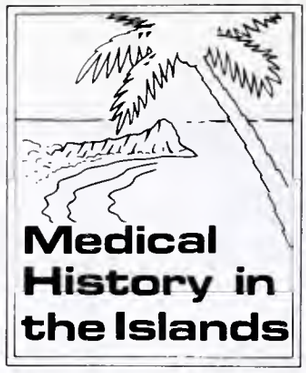
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Some Early Physicians of Hawaii—1800s

Each of the first four missionary companies arriving in Hawaii from New England between 1820 and 1831 included a physician. Of these Drs. Dwight Baldwin and Gerrit P. Judd stayed in Hawaii to work the rest of their lives.

Judd wrote a book on anatomy in the Hawaiian language early in his career, and practiced in Honolulu. He later became adviser and cabinet minister for Kamehameha III, and aided the government in retaining its integrity as an independent nation.

Baldwin practiced at Lahaina, Maui, and was particularly industrious in limiting the spread of the smallpox epidemic in 1853. His notebook, extant at the library of the Hawaiian Mission Children's Society, Honolulu, describes his daily medical challenges—of infections, fevers of unknown etiology, consumption, injuries, and obstetrics.

Dr. Alonzo Chapin, who arrived with the fifth missionary ship in 1832, made some medical observations, published in Boston in 1850, in which he cited syphilis as the most prominent cause of the decrease in population in Hawaii.

Dr. James Smith arrived in 1842 with the 10th missionary company, and lived and worked at Koloa, Kauai, until his death in 1897. Like Baldwin, he was an ordained minister as well as physician.

After the middle of the 19th century, other physicians, not in the missionary group, began to make valuable contributions to health care in Hawaii. Seth Porter Ford, M.D., established two small hospitals in Honolulu. It was he who operated on the missionary wife, Lucy G. Thurston, in 1855, for a malignant tumor of the breast. No description of this surgical feat can surpass that of the patient herself, taken from her memoirs: "Then came a gash long and deep, first on one side of my breast, then on the other. Deep sickness seized me, and deprived me of my breakfast. This was followed by extreme faintness. My sufferings were no longer local. There was a general feeling of agony throughout the whole system. I felt, every inch of me, as though flesh was failing. During the whole operation, I was enabled to have entire self control over my person, and over my voice. Persis and Asa were devotedly employed in sustaining me with the use of cordials, ammonia, bathing my temples etc. I myself fully intended to have seen the thing done. But on recollection, every glimpse I happened to have, was the doctor's right hand completely covered with blood, up to the very wrist. He afterwards told me, that at one time the blood from an artery flew into his eyes, so that he could not see. It was nearly an hour and a half that I was beneath his hand, in cutting out the entire breast, in cutting out the glands beneath the arm, in tying the arteries, in absorbing the blood, in sewing up the wound, in putting on the adhesive plasters, and in applying the bandage."[2] Mrs. Thurston survived an additional 21 years after this procedure, eventually dying at the age of 85.

Wilhelm Hillebrand, born in Westphalia, Germany, in 1821, received his education at Goettigen, Heidelberg, and Berlin, in the classical manner, as a physician. His curriculum included a thorough grounding in botany as a foundation for *materia medica*. He practiced at Paderborn for a time, but because of ill health from tuberculosis, traveled to Manila and eventually to San Francisco. He landed in Honolulu in 1850, and went into practice with a colleague, Dr. Newcomb. He was the first physician to the Queen's Hospital in 1859, and was a member of the Board of Health. He assisted in the importation of Portuguese and Oriental immigrant agricultural workers. In 1865, he went around the world, collecting plants. Species that he shipped back to Hawaii from Singapore, Calcutta, Ceylon, Java, and China, included camphor, cinnamon, jak, litchi, mandarin orange, and Java and Chinese plum. He planted trees such as the gular and bombax on the grounds of the Queen's Hospital, as well as at his home—now the Foster Gardens. These trees are thriving today, more than a hundred years later. In 1871, Hillebrand left Hawaii and went to Cambridge, Mass., where he wrote his *Flora of the Hawaiian Islands,* the first great botany book of Hawaii. He later traveled in Europe and settled in Heidelberg, where he died in 1886.

George Phillippe Trousseau, born in 1833 in Paris, was the son of the distinguished physician, Armand Trousseau. He was awarded the Legion of Honor in 1862 for his work with the French army in Algeria. In 1866, he traveled to Australia and New Zealand, and came to Hawaii to 1872. He performed the first grafting of skin in the Islands, and the first tracheostomy. He was physician to King Lunalilo, a member of the board of trustees of the Queen's Hospital, and president of the Board of Health.

REFERENCES

1. Halfod, FJ: *Nine Doctors and God.* Honolulu, 1954.
2. Thurston LG: The Life and Times of Mrs. Lucy G. Thurston. Ann Arbor, 1882.



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CONTENTS

Over the Editor's Desk 257
Harry L. Arnold Jr., M.D.

Farewell to the Troops 257
Harry L. Arnold Jr., M.D.

Aloha, Dr. Arnold 257
Doris R. Jasinski, M.D.

Continuing Medical Education—Special Events 258

Anatomy of A Dermatology Practice 260
David J. Elpern, M.D.

Hawaii Academy of Physicians' Newsletter 276
Dr. Don and Mrs. Marlies Farrell

The Utility of Shave Biopsy in Office Practice 278
Jeffrey K. Teraoka, M.D., and Allan K. Izumi, M.D.

News and Notes 282
Henry N. Yokoyama, M.D.

Clinical Pathologist's Easy Chair—ASO, Febrile Agglutinins, ESR and CRP 286
Francis H. Fukunaga, M.D.

HAWAII MEDICAL ASSOCIATION · 1856 ·

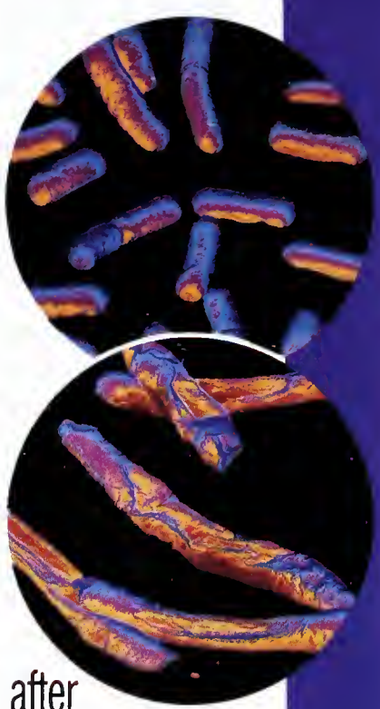
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Please see summary of product information on the following page.

References: 1. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Wormser GP, Keusch GT, Heel RC: *Drugs 24*:459-518, Dec 1982. 3. Ronald AR: *Clin Ther 3*:176-189, 1980. 4. Rubin RH, Swartz MN: *N Engl J Med 303*:426-432, Aug 21, 1980. 5. Cunha BA: *Postgrad Med 70*(6):149-156, Dec 1981. 6. Neu HC: *Infectious Diseases 10*(6):4-19, Jun 1980. 7. Jones SR: *Ration Drug Ther 13*(11):1-5, Nov 1979.

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Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, hepatocellular necrosis, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.
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Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.
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Over the Editor's Desk

Harry L. Arnold Jr., M.D.

Nancy Binkin et al. in the June 1 *JAMA* advise weekly viral cultures for pregnant women with recurrent genital herpes.

* * *

No more enforced hospitalization for patients needing IV cephalosporin? So say Smith, Kline & French, who have begun to market the first one-injection-a-day cephalosporin in the U.S., cefonicid ("Monocid").

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Beware of giving Accutane to any woman who could possibly become pregnant; it's one of our more dangerous teratogens! So reports Paul J. Nenke, M.D., in the June 22 issue of *JAMA*. First trimester is the dangerous period. Defects are severe.

* * *

You might want to try another sodium-free salt substitute; if so, "Mrs. Dash," made by Alberto-Culver Co., 2525 Armitage, Melrose Park, Ill. 60160, looks interesting.

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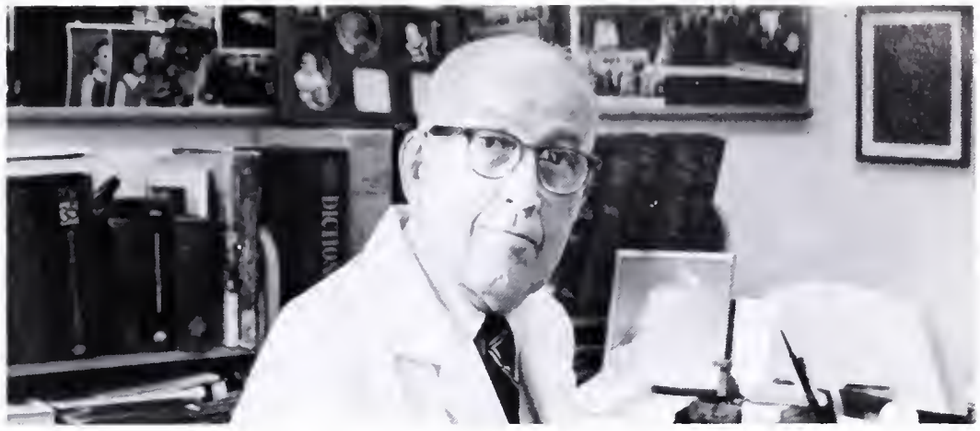
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◊



Farewell to the Troops

Editing the HAWAII MEDICAL JOURNAL these past 40+ years was, until a few years ago a lot of work, but it has never been a burden; play almost as much as work, and I would have cheerfully paid the Association to let me do it. It was its own reward. Before it was able to become burdensome, help came—Henry Yokoyama's immensely popular News and Notes feature, and most importantly, the expertise in manuscript editing possessed by Doris Jasinski, who first took that chore over some 21 years ago and then some three or four years ago began to assume all the duties of executive editor, shepherding each issue through the entire printing process. It was fortunate that she was in charge when we were battling for survival, after the Association's officers put an end to the generous subsidies the JOURNAL had always enjoyed and we had to make ends meet, or *else*.

Contributing editors John Corboy and Fred Reppun, with their always incisive and refreshingly new and individual points of view, have taken on most of the task of expressing editorial viewpoints, so important to any medical journal, and Douglas Massey has shared the chore of proofreading with Dr. Jasinski and also taken charge of the book review department, which in past years used to provide the Hawaii Medical Library with 2 or 3 books every month and may do so again.

A great many small medical journals, with a captive subscription list of under two or three thousand, have gone under; indeed, *Northwest Medicine,* with three states supporting it, folded up its operation some 15 or 20 years ago because of the same problems that we faced—dwindling advertising revenues. We would have suffered the same fate if the Association had not continued its subsidy as long as it did. Now with Crossroads Press we seem to have stabilized our operation well enough to stay in business, and we're thankful.

On August 31 I am terminating my practice, but staying in dermatology by transferring to the University of California Medical Center in San Franciso, and I am grateful for the circumstances that allow me to leave the JOURNAL in such capable hands. I've been asked to continue my column, "Over the Editor's Desk"; and to legitimize that title, I've been offered, and have accepted, a new and honorific title—"Founding Editor." It will keep me in touch. My thanks to all who have helped with the JOURNAL and "Aloha no" to all my many friends in the Association!

250 Laurel St., 301
San Francisco, CA 94118

Harry L. Arnold Jr., M.D.
"Founding Editor"

Aloha, Dr. Arnold!

Dr. Harry L. Arnold, Jr., the founding Editor of this HAWAII MEDICAL JOURNAL, has announced his plans to close his medical practice in Hawaii, and to move, with his new bride, to the place where everybody leaves his (or her) heart—San Francisco.

We at the JOURNAL have been invited to designate him as "Editor Emeritus," but we don't like that—sounds like he'll be retiring from the JOURNAL, and it really doesn't express the over 40 years' work that he has put into this publication.

We prefer "Founding Editor," and it is thus he will be designated henceforth in the "masthead."

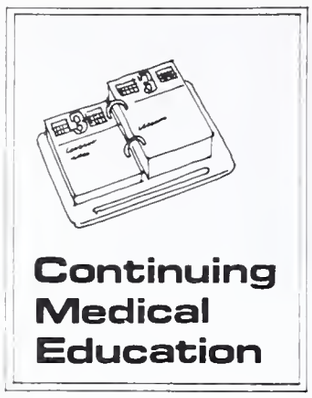
We hope he will continue to give us his sage advice, and continue to contribute, with his "Over the Editor's Desk" or "Letter from Across the Sea" or some similarly headed offerings.

Dr. Arnold founded this JOURNAL in September 1941 under the auspices of the Hawaii Medical Association, of which he was president in 1951.

It has been under his guidance that the JOURNAL has prospered ever since. Those of us who continue in the work he started hope we can maintain the high standards for syntax and editorial judgment that he has set for us.

Doris R. Jasinski, M.D.
Managing Editor

P.S. To honor Dr. Arnold further, we are running a "mini-Festschrift" of dermatology articles this month.



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SPECIAL EVENTS

All special events should be confirmed with the CME program sponsors, as cancellations are not necessarily reported to the HAWAII MEDICAL JOURNAL.

July 7-14, 1984	Cardiovascular Medicine and Surgery. Contact: Stanford University Medical Center, Room TC 129, Stanford, Calif. 94305, (415) 497-5594. At: Mauna Kea Beach Hotel, Hawaii.
July 21-28, 1984	How to Cope with PPO's *and* Developing a Simplified Approach to Financial Planning for the Physician. Contact: Perkins and Zures, Inc., at (714) 787-8522. At: S.S. Independence Cruise, Honolulu, Hawaii.
Aug. 10-15, 1984	Pre-Symposium Workshop: "Roles and Responsibilities of Physicians and Mental Health Specialists in the Courtroom: Views from the Bench." Contact: G. Waldron, M.D., Southern California Neuropsychiatric Institute, 6794 La Jolla Boulevard, La Jolla, Calif. 92037, (619) 454-2102.
Aug. 12-22, 1984	27th Annual Postgraduate Refresher Course. Contact: University of Southern California School of Medicine, Postgraduate Division, 2025 Zonal Avenue, Los Angeles, Calif. 90033, (800) 821-5094/(213) 746-1384. At: Sheraton Waikiki and Royal Lahaina Maui.
Aug. 18-23, 1984	Responsibility Issues in Mental Health. Contact: G. Waldron, M.D., Califoria Neuropsychiatric Institute, 6794 La Jolla Boulevard, La Jolla, Calif. 92037, (619) 454-2102. At: The Mauna Kea Beach Hotel on the Big Island of Hawaii.
Aug. 19-24, 1984	The 11th Hawaiian Seminar on Clinical Anesthesiology. Contact: Educational Programs, Division of the California Society of Anesthesiologists at (415) 348-1407. At: Maui Surf (Kaanapali Beach), Maui, Hawaii.
Aug. 19-25, 1984	American Fertility Society, 1608 13th Avenue, South, Suite 101, Birmingham, Ala. 35256. At: Hyatt Regency, Maui.
Aug. 20-24, 1984	Laboratory Medicine '84—Cost Effective Use of the Laboratory for Clinicians and Pathologists. Contact: University of Southern California, Dept. of Pathology, (213) 226-7139. At: Honolulu.
Aug. 24-25, 1984	The Pan-Pacific Conference on Health Systems Development and Planning. Contact: Jonathan S. Raymond, M.D., School of Public Health, University of Hawaii at Manoa, 1960 East West Road, Honolulu, Hawaii 96822, (808) 948-7337. At: Honolulu.
Aug. 25-Sept. 1, 1984	Laboratory Medicine 1984, for Physicians, Pathologists and Technologists, co-sponsored with the University of Southern California School of Medicine, Dept. of Pathology. Contact: Dee Chang, University of Hawaii at Manoa, John A. Burns School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 947-8573. At: Hotel King Kamehameha, Kona, Big Island of Hawaii.
Sept. 15-22, 1984	Echo/Doppler Cruise—Echocardiography. Contact: Institute for Medical Studies, 14761 Franklin Avenue, Suite A, Tustin, Calif. 92680, (714) 832-2650. Cruise through the Hawaiian Islands.
Oct. 1-5, 1984	International Symposium on Medical Transport—An Emerging Sub-specialty. At: Honolulu.
Oct. 6-12, 1984	UCLA Arthroscopy. Contact: Mrs. Janet Frank, Dept. of Health Sciences, Room 614, 10995 Le Conte Avenue, Los Angeles, Calif. 90024. At: Maui Marriott.
Oct. 6-13, 1984	Cardiology at University of Southern California, USC School of Medicine, Postgraduate Associate Dean, USC School of Medicine Postgraduate Division, 2025 Zonal Avenue, KAM 307, Los Angeles, CA 90033, (213) 224-7051. At: Mauna Kea Beach Hotel.
Oct. 13-21, 1984	9th Annual International Body Imaging Conference. Contact: Medical Seminars International, Inc., West Park Hospital Medical Office Building, 22135 Roscoe Boulevard, Suite 104, Canoga Park, Calif. 91304, (818) 340-0580, ext. 280. At: Royal Lahaina or Hyatt Regency Maui.
Oct. 20-27, 1984	9th Annual Pediatrics for the Practitioner. Contact: Miller Children's Hospital, Memorial Medical Center of Long Beach, 2801 Atlantic Avenue, P.O. Box 1428, Long Beach, Calif. 90801-1428, (213) 377-5591. At: Mauna Kea Beach Hotel, Kawaihae, Hawaii.
Oct. 20-27, 1984	New Approaches to the Evaluation of Neoplastic Lymphoproliferative Disorders, co-sponsored with University of Southern California School of Medicine Department of Pathology. Contact: Dee Chang, University of Hawaii at Manoa, John A. Burns School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 947-8573. At: Wailea Beach Hotel, Maui.
Oct. 21-25, 1984	Medical Group Management. Contact: Medical Group Management Association, 1355 South Colorado Boulevard, Suite 900, Denver, Colo. 80222. At: Sheraton Waikiki.
Oct. 25-28, 1984	Allergy, Immunology, and Infectious Diseases. Contact: Joe Harrison, M.D., Symposium Maui, Inc., P.O. Box 10185, Lahaina, Hawaii 96761, (808) 661-8032. At: Maui.
Oct. 27 1984	American Diabetes Association Clinical Education Program. Contact: Dee Chang, University of Hawaii School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 947-8573. At: Honolulu.

Oct. 30-Nov. 15, 1984	Cross-Cultural Medical Care: A Way to Improve our Practices, Dr. Donald Char. Contact: University of Hawaii School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 947-8573. At: 17-day tour of China.
Oct. 31-Nov. 14, 1984	The Status of Medicine in China Today, Dr. K.S. Tom. Contact: Dee Chang, University of Hawaii School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 947-8573. At: 15-day tour of China.
Nov. 5-14, 1984	The Impact of Eastern and Western Cultures on Infectious Diseases, Dr. Dexter Seto. Contact: Dee Chang, University of Hawaii School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 947-8573. At: 9 days in Hong Kong.
Nov. 2-3, 1984	Seminar on Aging: "New Hope for an Old Problem." Contact: Moana, 888 S. King St., Honolulu, Hawaii 96813, (808) 523-2311, Ext. 8153. At: Honolulu Academy of Arts Theatre, Honolulu, Hawaii.
Nov. 9-11, 1984	Hawaii Medical Association 128th Annual Scientific Meeting, Infectious Disease: Current Status and New Horizons. Contact: Jennie Asato, Hawaii Medical Association, 320 Ward Avenue, Suite 200, Honolulu, Hawaii 96814, (808) 536-7702. At: Kauai Surf Hotel, Kauai.
Nov. 17-24, 1984	Medicine and Society in History. Contact: University of Washington School of Medicine, Division of CME, E303 Health Sciences Center, SC-50; Seattle, Wash. 98195, (206) 543-1050. At: Inter-Continental Maui, also Molokai lecture and tour on Nov. 23-34 (Kalaupapa).
Nov. 24-Dec. 1, 1984	Red Cells in the Sunset, Dr. James Linman. Contact: Dee Chang, University of Hawaii School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 947-8573. At: 7-day cruise around the Hawaiian Islands.
Nov. 27-29 1984	Pacemaker Update, co-sponsored by the Cordis Corporation. Contact: Dr. Irwin Schatz, University of Hawaii, John A. Burns School of Medicine, Dept. of Medicine, 1356 Lusitana St., 7th Floor, Honolulu, Hawaii 96813, (808) 548-2810. At: Hyatt Regency Maui.
Dec. 2-5, 1984	American Medical Association—Interim House of Delegates. Contact: Bob Hobard, Dept. of Meeting Management, AMA, 535 North Dearborn St., Chicago, Ill. 60601. At: Sheraton Waikiki, Honolulu.
Dec. 5, 1984	Hypertension Symposium for Hawaii—1984. Contact: Stephen Wallach, M.D., 848 South Beretania St., Suite 315, Honolulu, Hawaii 96813, (808) 521-3851. At: Queen's Hospital, Mabel Smyth Auditorium, Honolulu.
Dec. 5-8, 1984	The Fourth Annual Asian-Pacific Congress of Medical Marathoners in conjunction with the Twelfth Annual AMJA Symposium on The Athletic Heart: Physiological Adaptation to Environmental Stress. Contact: Hugh Ames, P.O. Box 27332, Chinatown Station, Honolulu, Hawaii 96827. At: Moana and Surfrider hotels, Honolulu.
Dec. 8-15, 1984	Cross Cultural Medical Care, Dr. Donald Char. Contact: Dee Chang, University of Hawaii School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 947-8573. At: 7-day cruise around the Hawaiian Islands.

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Anatomy of a Dermatology Practice—

A Year's Experience on Kauai

David J. Elpern, M.D., Lihue, Kauai

• *In an attempt to analyze a clinical dermatologic practice, demographic data were collected on all patients seen for a period of one year. A total of 3,277 patients with 4,324 separate diagnoses were recorded. All the diseases seen, along with the number of cases and their percentages, as well as the 50 most common diagnoses, are presented in tables. The discussion is limited to specific areas of interest. These include contact dermatitis, skin cancer, herpes simplex, polymorphous light eruption, contact urticaria, and atopic dermatitis, among others. Unexpected racial and ethnic distributions for some diseases were encountered.*

This work is a personal view, and not a statement of dermatologic dogma. It demonstrates that intellectual stimulation may be a sequela to a rather bland exercise such as data collection. New avenues for investigation are suggested. Some are being actively investigated at this time.

As the sole dermatologist on Kauai, a relatively isolated Hawaiian island, I have a unique demographic laboratory. The population of the Island is relatively evenly divided into 4 racial groups. A good cross-section of the population is seen in the practice, and this offers a singular opportunity to compare the frequency of the various skin diseases found in each group, as well as to make the usual age and sex comparisons.

The professional isolation here compels one to "dialogue" with one's self. As a basis for this soliloquy, and for other reasons, I decided to record the diagnoses and demographic data on all patients seen. It could not be foreseen where this exercise would lead, but the discipline seemed a good one.

What follows are the bare bones of a year's experience in the skin trade.

Methods

The most westerly of the major Hawaiian Islands, Kauai is located 22 degrees north of the Equator. The population, according to the 1980 U.S. Census, was 39,082. The racial breakdown is given in Table 1.

TABLE 1.
Kauai population
U.S. census 1980

Group	Number	% of Total
Caucasian	11,147	28.5
Filipino	10,325	26.2
Japanese	9,755	25.0
Hawaiian/ part Hawaiian	5,704	14.6
Other	2,186	5.6

The dermatology practice, with a multispecialty group, draws from the entire Island population. Between 5 and 10% of new patients are tourists. The work schedule is 10 half-days per week. During the calendar year surveyed, the office was open approximately 48 weeks.

From the Kauai Medical Group, G.N. Wilcox Hospital & Health Center, 3420-B Kuhio Highway, Lihue, Hawaii 96766.

Accepted for publication April 1984.

Record-keeping is simple, evolving over 2 years, as it became clear what information was important and how it might best be presented. Each patient is assigned a "Patient Card" on which demographic data are entered. On this card is room for 7 diagnoses and some brief comments. Such a card is important because charts do not stay in the dermatology department but reside in a central medical records area. In a small private office such information could be on the face sheet of a patient's chart. The type of demographic data of import for different practices might vary considerably from one geographic or socioeconomic area to another.

At the end of each day, diagnoses are entered on "Diagnoses Cards," along with date of diagnosis, patient name, age, sex, race, and comments. The International Coding Index for Dermatology (ICD) is used.[1] Certain diagnoses, such as transient acantholytic dermatosis, have no code assigned, and a blank space is left after ICD in these cases.

Once operational, the system consumes 15-30 minutes a day. Ideally, this information belongs in a computer.

Many ways of presenting the raw data were reviewed, but the system which seemed to fit best was that used by Verhagen et al.[2] Their categories were utilized with only minor changes.

Results

During the year March 19, 1981, to February 28, 1982, 3,277 separate patients with a total of 4,105 diagnoses were seen. No diagnosis was entered for 33 patients; most of these were tourists who could not, or local residents who did not, make return appointments. A total of 324 different diagnoses appeared. At present, approximately 2 new diagnoses are added per week.

Table 2 shows the breakdown of diagnoses as they fit into 20 broad categories. The 50 most commonly encountered conditions are listed in Table 3. To avoid redundancy with the discussion only brief comments will be made about these tables here.

Acropustulosis of infancy is listed with the parasitic diseases, because the author feels that at least some of these patients had antecedent scabietic infection. These 8 patients are presented in Table 4.

Contact dermatitis (Table 2, Group VII) comprises 305 patients, of whom 61 were felt to have phytodermatitis. The diagnosis of contact dermatitis was clinical. Only about 20% of these patients were patch-tested.

Dermatitis N.O.S. (Table 2, Group VII) is Dermatitis Not Otherwise Specified. There were 149 patients with this diagnosis, accounting for 4.24% of all patients seen.

Table 2, Group XIX, contains "acute" and "chronic" polymorphous light eruption (PLE). The former is a distinctive photodermatitis seen almost exclusively in tourists. By year's end, 39 patients had been seen, while at the time of this writing the total was 74. There are 7 patients (all Kauai residents) with the more classic form of PLE.

Dysmorphobia (Table 2, Group XX) is a term used by J.A. Cotterill[3] to describe a group of patients with persistent cutaneous symptoms but few or no objective signs of disease. Although Cotterill's article appeared late in the course of this study, a number of these cases were recognized. This may attest to the importance of this syndrome.

In Table 2, Group XX D one finds hyperimmunoglobulin-E syndrome. These patients are further broken down in Table 5. They are not patients with Job's syndrome, but represent an area of interest of the author.

The 13 patients with leprosy and the 10 patients with melanoma will be dealt with in the discussion.

Table 6 is the breakdown of 9 diagnoses into age groups, sex, and race. The conditions were selected because they contained sufficient numbers of patients for analysis, and also for interest. (More than one year's experience is depicted for some, because this makes the data more meaningful.) Many other diseases could have been similarly explored.

The contact urticaria syndrome (CUS, Table 2, Group VIII) is a relatively new entity. It is probably much more common than this study indicates. The first 20 patients with this diagnosis are depicted in Table 7. Aquagenic pruritus[4] and aquagenic urticaria[5] should be considered under CUS.

Table 8 is a comparison of the incidence of skin disease in diverse geographical and socioeconomic settings. The data from London (England), Mexico, and Calcutta were taken from the study of Bannerjee


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and Datta,[6] while those from London (Ontario), is unpublished material belonging to Dr. Patrick Kenny.

Discussion

From the data presented here, many conclusions, speculations, or philosophical points could be derived. In the interest of conciseness, only some comments will be made, while other areas are left for further reports.

The list of the 50 top diagnoses (Table 3) confirms the expected; however, it does contain some surprises. Contact dermatitis would not have been expected to be the second most common condition seen. Care was taken not to label a dermatitis as such unless the clinical features were consistent with that diagnosis. Of the 305 contact dermatitis patients, 61 had a phytocontact dermatitis. Mango, the Euphorbiaceae, and mokihana *(Pelea anisata)*[7] were the plants most frequently blamed.

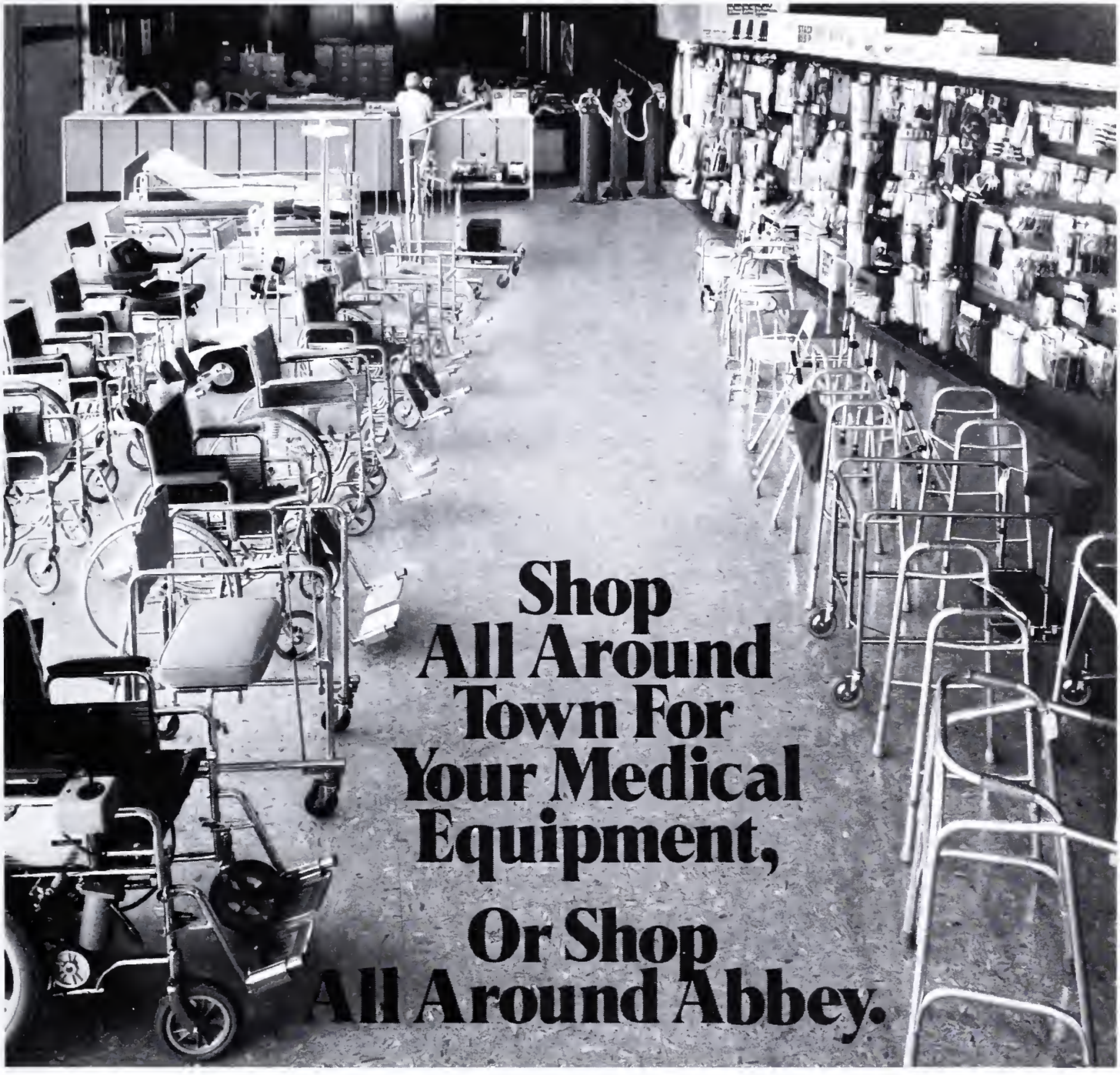
Mango dermatitis is of interest in that it is seen almost exclusively in immigrants to the Islands, particularly those from North America and Japan. Urushiol, identical to 3-pentadecylcatechol, is found in the leaves, stems, timber, and pericarp.[8] It is the same as a sensitizing phenol found in poison ivy, poison oak, and other members of the Rhus family. Kamaainas (native-born residents of Hawaii) of all ethnic backgrounds do not seem to develop mango dermatitis. Two factors may participate in the induction of this immune tolerance. It has been demonstrated that exposure to haptens via the oral route prior to cutaneous exposure favors the development of specific immune tolerance.[9] This bypasses the Langerhans cell system, which functions in the processing of certain antigens. In addition, a recent report indicates that ultraviolet irradiation of the skin prior to cutaneous exposure to certain haptens causes Langerhans cell depletion, prevents sensitization, and makes future recognition of that antigen difficult.[10] Both of these factors may act in concert to prevent allergy to mango in those born in Hawaii. The induction and maintenance of immune tolerance by ingestion of antigens and ultraviolet light may have more far-reaching beneficial effects than allowing one to enjoy a fruit. The negative aspects, e.g. the emergence of cutaneous malignancies and the spread of viruses such as herpes simplex, have been discussed in the literature.[10]

Mokihana dermatitis is a phytocontact dermatitis peculiar to this Island, as the mountains of Kauai are the only place where this shrub is found.[7] Pelea is in the rue family, like lime. The leaves and berries are popular for lei-making because they contain the fragrance of anise. Following skin-contact and sun-exposure, a dermatitis develops which has the features of both primary irritant and berloque dermatitis. To date, no analysis of the plant's resins has been made. The erup-

TABLE 2.
Disease categories, diseases, numbers, and percentages

	Disease Groups	#	%
I.	Pyoderma	148	4.52
II.	Mycobacterial	16	0.49
III.	Other Bacterial	21	0.64
IV.	Fungal	331	10.10
V.	Viral	340	10.38
VI.	Parasitic	142	4.33
VII.	Dermatitis	1,073	32.74
VIII.	Papulosquamous	119	3.63
IX.	Vesiculobullous	9	0.27
X.	Hemorrhagic & Vascular	108	3.30
XI.	Vasculitis & Granulomatous	43	1.31
XII.	Sebaceous Gland	406	12.39
XIII.	Sweat Gland	29	0.88
XIV.	Hair and Nail	161	4.91
XV.	Pigmentary	84	2.56
XVI.	Keratinizing	85	2.59
XVII.	A. Benign Tumor	527	16.08
	B. Malig/Premalignant	240	7.32
XVIII.	Metabolic	67	2.04
XIX.	Skin Dis. Caused by Physical Agents	93	2.84
XX.	A. Mucous Memb.	23	0.70
	B. Psychocutan.	10	0.31
	C. Genodermatoses	11	0.34
	D. Miscellaneous	20	0.61
XXI.	NO Diagnosis	33	1.01
I.	Pyoderma Group	146	4.52
	Impetigo	60	1.83
	Echthyma	10	1.83
	Erysipelas	2	0.06
	Cellulitis	1	0.03
	Streptococcal gangrene	1	0.03
	Scarlet fever	2	0.06
	Erythema marginatum	1	0.03
	Folliculitis	50	1.53
	Gram neg. folliculitis	2	0.06
	Bockhart's Impetigo	4	0.12
	Erythema Infectiosum	2	0.06
	Furunculosis	6	0.18
	Abscess	6	0.18
	Blastomycosis-like	3	0.09
II.	Mycobacterial Infections	16	0.49
	Leprosy	13	0.40
	Atypical A.F.B. Infections	3	0.09
III.	Other Bac. Infections	21	0.64
	Cat scratch disease	3	0.09
	Echthyma gangrenosum	1	0.03
	Erysipeloid	1	0.09
	Pitted keratolysis	4	0.12
	Erythrasma	3	0.09
	Trychomycosis axill.	3	0.09
	Dental sinus	1	0.09
	Sinus tract	2	0.06
	Gonorrhea	1	0.03
	Syphilis	2	0.06
IV.	Fungal Infections	331	10.10
	Dermatophytes (Total)	181	5.52
	T. corporis	70	2.14
	T. cruris	52	1.59
	T. pedis	36	1.10
	T. manus	3	0.09
	T. capitis	2	0.06
	Onychomycosis	11	0.34
	T. versicolor	114	3.49
	Candidiasis	31	0.95
	Sporotrichosis	3	0.09
	Phaeomycotic cyst	1	0.03
	Chromoblastomycosis	1	0.03
V.	Viral Disease	340	10.38
	Verrucae (Total)	198	6.04
	Verrucae vulgaris	147	4.49
	Verrucae plana	23	0.70
	Condyloma acumin.	28	0.85
	Herpes sim. (Total)	70	2.14
	HSV, oral	29	0.88
	HSV, genital	32	1.04
	Molloscum contag.	19	0.58
	Herpes zoster	41	1.25
	Varicella	3	0.09
	Gionotti-Crosti	4	0.12
	Viral Exanthem	1	0.03
	Herpangina	1	0.03
	Mononucleosis	1	0.03
VI.	Parasitic Disease	142	4.33
	Scabies	49	1.50
	Animal scabies	10	0.31
	Acropustulosis/Infant	8	0.24
	Post-scabies nodules	1	0.03
	Insect bites	29	0.88
	Papular urticaria	15	0.46
	Demodex folliculorum	1	0.03
	Pediculosis capitis	19	0.58
	Pediculosis pubis	5	0.15
	Portuguese man-o-war	1	0.03
	Marine contact derm.	4	0.12
VII.	Dermatitis Group	1,073	32.74
	Chronic dermatitis	79	2.41
	Pityriasis alba	65	1.98
	Lichen simp. chron.	57	1.74
	Neurodermatitis	9	0.27
	Berloque dermatitis	6	0.18
	Breast eczema	3	0.09
	Eczematoid dermatitis	7	0.21
	Diaper dermatitis	1	0.03
	Hand dermatitis	73	2.23
	Dyshidrotic eczema	45	1.37
	Asteatotic eczema	2	0.06
	Nummular eczema	5	0.15
	Autoimmune progester.	3	0.09
	Autosensitization	3	0.09
	Drug eruption	45	1.37
	T.E.N.	1	0.03
	Photo-drug eruption	5	0.15
	Seborrheic	26	0.79
	Seborrhea	41	1.25
	Stasis dermatitis	3	0.09
	Exfoliative erythro.	4	0.12
	Keratolysis exfolia.	1	0.03
	Prurigo nodularis	7	0.21
	Subacute prurigo	2	0.06
	Summer prurigo/elbows	6	0.18
	Xerosis	3	0.09
	Contact urticaria	11	0.34
	Granuloma fissuratum	2	0.06
	Artefactual derm.	1	0.03
	Intertrigo	3	0.09
	Dermatophytid	2	0.06
	Dermatitis N.O.S.*	139	4.24
VIII.	Papulosquamous	119	3.63
	Psoriasis	65	1.98
	Pityriasis rosea	22	0.67
	Lichen planus	5	0.15

Table 2 continued on page 264



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Dermatitis N.O.S. is the embarrassing fifth most common diagnosis. This waste-paper basket category, a measure of ignorance, laziness, and honesty, underscores the nonspecific findings of many inflammatory processes. Often these patients had negative KOH preparations, nondiagnostic skin biopsies, and noncontributory laboratory studies. Others were seen only as tourists in-transit or were local residents who cleared before a return visit or did not present for follow-up. Some did turn out to have "missed diagnoses," such as scabies, tinea, and, in one case, pediculosis. Such diagnostic errors are valuable learning experiences (perhaps the most valuable!). They reaffirm the dictum that one must "train oneself to notice what one sees."[12] An analysis of this group would be difficult but would teach much about the way a physician practices medicine, and what his weak areas are.

Basal cell carcinoma (BCC), the ninth most common diagnosis, comes as no surprise when one considers Kauai's latitude. Table 6 shows the breakdown of 100 consecutive BCC patients. The sudden emergence around age 30 probably relates to the latent period for this tumor. Squamous cell carcinoma (SCC) was not seen in the small group of 21 patients until the sixth decade, implying a much longer latent period. Only 7% of the BCC population was non-Caucasian, while 43% of the patients with SCC were non-Caucasian. This may relate to the fact that SCC is more likely to be multifactorial in its origin than BCC. Two of the Japanese patients (a burn scar carcinoma, and a palmar SCC) and the lone Filipino patient (a nail bed carcinoma) had tumors which were not primarily induced by the sun. In computing the incidence of non-melanoma skin cancer (NMSC) for whites on Kauai, based on this practice, the non-age-adjusted incidence is 562 per 100,000, or much higher than the 379 per 100,000 per year found by Scotto et al.[12] for the Dallas/Fort Worth area. Since only a portion of the NMSC on Kauai were seen in the practice studies, the true incidence here would be significantly greater than 562 per 100,000 per year. Because this information is important, a prospective study is underway to determine Kauai's incidence of NMSC.

Hand dermatitis was the 13th most common diagnosis made. In reality, this may be under-reported because it was not until half-way through the year that the author discovered the exhaustive treatise on the subject by Agrup,[13] and, with that as a background, started paying closer attention to this group of patients. Dyshidrotic eczema and paronychia should be included under this heading. This would bring the total number of patients seen

Table 2 continued from page 262

	Disease Groups	#	%
	Acrodermatitis con.	9	0.29
	Palmoplantar Pso.	7	0.21
	PLEVA	3	0.09
	Lichen striatus	5	0.15
	Dermatitis repens	1	0.03
	Lichen nitidis	1	0.03
	Parapsoriasis	1	0.03
IX.	Vesiculobullous Disorders	9	0.27
	Pemphigoid	2	0.06
	Derm. herpetiformis	2	0.06
	Epiderm. bull. simpl.	2	0.06
	Epiderm. bull. dyst.	1	0.03
	Hailey Hailey	1	0.03
	Grover's Dis.	1	0.03
X.	Hemorrhagic/Vascular	108	3.03
	Urticaria Group	82	1.04
	Acute urt.	34	1.04
	Chronic urt.	17	0.52
	Dermographism	23	0.70
	EAC	4	0.12
	Cholinergic urt.	1	0.03
	Cold urticaria	1	0.03
	Erythema multiforme	6	0.18
	Palmar erythema	2	0.06
	Erythromelalgia	1	0.03
	Cutis marmorata	1	0.03
	Lymphocytic Infil.	1	0.03
	Leg ulcer	9	0.27
	Purpura N.O.S.	3	0.09
	Hematoma, traumatic	3	0.09
	Angioedema	2	0.06
XI.	Vasculitis/granuloma	43	1.31
	Systemic Lupus Ery.	7	0.21
	Discoid Lupus Ery.	6	0.18
	Polyarteritis nodosa	1	0.03
	Scleroderma, local.	1	0.03
	CREST syndrome	1	0.03
	Eosinophilic Fas.	1	0.03
	Temporal Arteritis	1	0.03
	Ery. elevatum diiut.	1	0.03
	Allergic vasculitis	1	0.03
	Lymphocytic vas.	1	0.03
	Erythema nodosum	1	0.03
	Panniculitis, N.O.S.	4	0.12
	Lichen sclerosus	1	0.03
	Granuloma annulare	6	0.18
	Necrobiosis lipoid.	2	0.06
	Granuloma, N.O.S.	3	0.09
	Pigmented purpuric	3	0.09
	Schamberg's dis.	1	0.03
	Sarcoidosis	1	0.03
XII.	Sebaceous Gland	406	12.39
	Acne group (Total)	351	10.71
	Acne vulgaris	260	7.93
	Acne excoriee	8	0.24
	Acne cystic	68	2.08
	Acne conglobata	1	0.03
	Acne fulminans	1	0.03
	Acne aestivalis	2	0.06
	Acne keloidalis	1	0.03
	Neonatal acne	3	0.09
	Steroid acne	4	0.12
	Oil acne	1	0.03
	Foll. occl. Triad	2	0.06
	Perioral dermatitis	22	0.67
	Rosacea	4	0.12
	Rhynophyma	4	0.12
	Comedo	4	0.12
	Fordyce condition	2	0.06
	Hidradenitis suppra.	4	0.12
	Milia	9	0.27
	Favre-Rachouchot	6	0.18
XIII.	Sweat gland Disorders	29	0.88
	Miliaria	17	0.52
	Hyperhidrosis	9	0.27
	Fox-Fordyce Dis.	2	0.06
	Blepharochalasis	1	0.03
XIV.	Hair/Nail Disorder	161	4.91
	Alopecia areata	26	0.79
	Telogen effluvium	11	0.34
	Androgenetic alopec.	1	0.03
	Diffuse alopecia	6	0.18
	Male pattern alopec.	6	0.18
	Hirsuitism	5	0.15
	Hair abnorm/acquired	3	0.09
	Hair abnorm/congen.	1	0.03
	Trichorhexis nodosa	1	0.03
	Trichotillomania	2	0.06
	Chron. paronychiae	43	1.30
	Acute paronychiae	4	0.12
	Nail dyst./acquired	17	0.52
	Nail dyst./congen.	10	0.31
	Nail dyst./N.O.S.	3	0.09
	Nail, overcurvature	9	0.27
	Nail pitting	4	0.12
	Onycholysis	9	0.09
XV.	Pigmentary Disorders	84	2.56
	Vitiligo	12	0.37
	Idiopath. Gutt. Hypo.	12	0.37
	Hypopigmentation N.O.S.	6	0.18
	Melasma	18	0.55
	Acanthosis nigricans	14	0.43
	Mongolian spot	1	0.03
	Erythema dyschrom.	1	0.01
	Poikiloderma civatte	4	0.12
	Ash leaf macule	1	0.03
	Hyperpig. N.O.S.	14	0.43
XVI.	Keratinizing Disorders	85	2.56
	Keratosis pilaris	21	0.64
	Ichthyosis	14	0.43
	Hyperker. Palm./Plant.	13	0.40
	Keratoderma punctata	4	0.12
	Lichen spinulosa	2	0.06
	Epidermal nevus	6	0.18
	Nevus unius lateris	1	0.03
	Clavi	22	0.67
	Hyperlinear palms	1	0.03
	Umbilical concretion	1	0.03
XVII.	A. Benign Tumors	527	16.08
	Acquired nevus	87	2.65
	Congenital nevus	18	0.55
	Blue nevus	6	0.18
	Halo nevus	2	0.06
	Becker's nevus	4	0.12
	Zosteriform nevus	4	0.12
	Ota/Ito nevus	1	0.03
	Nevus lipomatosus	1	0.03
	Spitz nevus	2	0.03
	Nevus spilus	2	0.06
	B.K. mole syndrome	1	0.03
	Dysplastic nev. snyd.	1	0.03
	Pseudomelanoma	1	0.03
	Lentigo	17	0.52
	Hemangioma	16	0.48
	Telangiecstasia	14	0.43
	Pyogenic granuloma	6	0.18
	Hypergran. tissue	1	0.03
	Nevus flammeus	3	0.09
	Nevus anemicus	2	0.06
	Venous lake	3	0.09
	Angiolipoma	2	0.06

Table 2 continued on page 268

If your patient needs surgery, consider the outpatient alternative

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with hand dermatitis to 165 patients, or the 5th most common problem seen. A high incidence of hand dermatitis is probably universal, but it may be greater here than elsewhere because of the number of people engaged in the hotel and restaurant industries and on the sugar plantations. Most cases were of traumatic origin, but there were also a significant number with hand dermatitis on an atopic basis.

A total of 39 patients seen during the year had a form of polymorphous light eruption (PLE), which has not received much attention in the dermatologic literature. This was the 30th most common diagnosis in the study. The 64 of these patients listed in Table 6 obviously represent more than one year's experience. The typical patient is a young-to-middle-aged Caucasian (white). Females outnumber the males 4:1. Of the 74 patients seen by the time of this writing, only 4 were Hawaii residents. This form of PLE presents with papules and papulovesicles located predominantly on the upper chest, the extensor aspects of the arms, and occasionally the extensor aspects of the legs. The face is usually spared. Pruritus is generally marked. It is felt to be a common variant of the more classical PLE. Recently, Hoelzle et al.[14] have presented data on PLE imputing UVA as the causative wavelength, and this fits the picture here. Most of the patients had used potent sunscreens which allowed them to spend prolonged periods in the sun. By filtering out UVB, they could have stayed out long enough to absorb sufficient UVA radiation to trigger this presumably toxic reaction to light. Morison and Stern[15] have speculated, based on a survey they took, that PLE is quite common. The above findings corroborate their hypothesis. This material will be handled more completely, along with histologic material, in a subsequent paper.

From the above, the value of knowing the most common diagnoses seen can be appreciated. This knowledge enables the physician to determine where best to invest energy in the preparing of patients' handouts and education material. Diagnoses may be uncovered, such as hand dermatitis, to which prior attention was not paid; and this will direct the clinician to learn more about a particular disease and to be a more effective diagnostician and therapeutician. If the use of a physician's assistant in an office is contemplated, knowing the most frequently encountered problems would allow for an estimate of what this person could handle and would be likely to see. For instance, if a physician's assistant treated acne, warts, tinea, atopic dermatitis, hand dermatitis, common pyodermas, herpes simplex and zoster, keratoses, pediculosis, and skin tags from the practice studied, this would account for about 1,400 new patients during the year. From data such as this, the question


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of cost-effectiveness could be addressed.

Table 2 is the meat of the study. It defies easy digestion. Comments need to be made about some of the entries.

Under Mycobacterial infections, Group II, there are 13 patients with leprosy. All of these patients were immigrants. No recent case has been diagnosed on Kauai in a patient born here, and this is generally true for the state as a whole. This fits Levis' data from New York City.[16] It appears that leprosy is less contagious in this environment than in the Philippines or Samoa, where most of our cases originate. Factors such as domicile overcrowding, access to bathing, and general nutrition may play a role in the susceptibility to this complex infection. Certainly, basic work remains to be done to elucidate why this disease does not spread in Hawaii among the population that would be at risk in another geographic and socioeconomic setting. The reverse might also be true: ethnic groups felt to be at low risk would contract the disease if exposed to the identical living conditions of the so-called "high-risk" group.

Acropustulosis of infancy was included with the parasitic diseases because the author feels that at least some of these patients had a prior scabietic infection. Along this line is the description of this entity by Bjornberg.[17] His patients were Oriental infants adopted into Swedish families. They developed a peculiar papulovesicular and pustular eruption on the hands and feet. Many had had proven scabies. In 1979 Kahn[18] and Jarratt[19] independently described a similar process in black children, many of whom had been treated by pediatricians prior to being seen by dermatologists. The initial diagnosis was scabies in many of the cases, but by the time the patients were seen by the dermatologist there was no evidence of mites, eggs, or feces. My group of 6 patients (Table 4) is interesting in that none were Caucasian, 3 had proven scabies prior to onset, and the others had all been treated for scabies. One of the patients was found to have recurrent scabies. I feel that the data suggest that at least some patients with acropustulosis of infancy have a post-scabietic epiphenomenon, and this process is unusual in Caucasians. Perhaps there are a few viable mites or retained mite parts which initiate this reaction in an hyperimmune host. The condition may be related to dyshidrotic eczema, which is also multifactorial in its etiology. Serological tests for prior scabietic infection might resolve this issue. It is clear that this disease needs to be investigated more thoroughly before it can be tucked away in the dermatology and pediatric textbooks.

Contact urticaria in Group VII merits discussion. The 11 cases undoubtedly represent a gross under-reporting, considering that most of these patients were picked up by chance questioning. A good basic review is that of von Krogh and Maibach.[20] For the purpose of this study, contact urticaria is defined as a syndrome in which pruritus, dermatitis, urticaria, rhinoconjunctivitis, or gastrointestinal symptoms (either singly or in combination) follow within an hour's contact of a substance with the skin or mucus membranes. Table 7 shows the offending substances for the first 20 patients recognized with this syndrome on Kauai. These patients represent the tip of an iceberg. At present a survey is being done on Kauai to estimate the incidence of contact urticaria in a dermatology practice. Preliminary results show that between 15% and 20% of the sampled population are aware of substances that elicit an immediate response. Contact urticaria, a subgroup of contact dermatitis, appears to have both allergic and toxic etiologies.

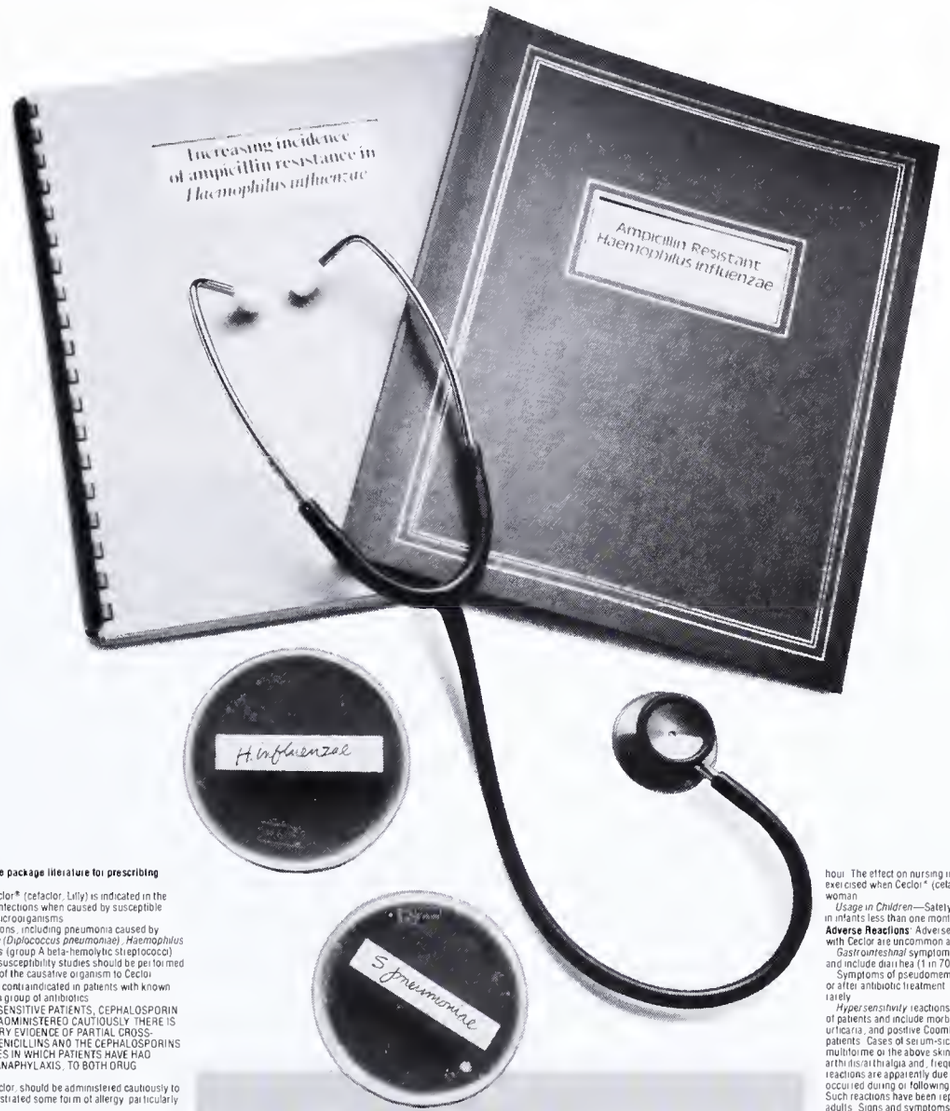
Under malignant tumors, Group XVII-B, the 10 melanoma patients warrant comment. Only 4 were newly diagnosed cases. All were Caucasian. This would put the yearly incidence for this racial group at 36 per 100,000 per year, or about the same as Queensland.[21] It is recognized that such a small sample is meaningless

Table 2 continued from page 264

	Disease Groups	#	%
	Angioker. Circum.	1	0.03
	Angioker. Fordyce	1	0.03
	Phlebecstasia	1	0.03
	Senile angioma	1	0.03
	Hemorrhoids	2	0.06
	Sturge Weber Syn.	1	0.03
	Lymphangioma	2	0.06
	Lipoma	5	0.15
	Xanthelasma	4	0.12
	Piezogen pedal pap	2	0.06
	Nevus sebaceous	7	0.21
	Sebaceous hyperplas.	2	0.06
	Sebaceous adenoma	1	0.03
	Seborrheic keratosis	72	2.20
	Dermatosis pap. nigra	17	0.52
	Benign keratosis	42	1.28
	Cutaneous horn	9	0.27
	Inverted follicular	1	0.03
	Solitary lichen plan.	4	0.12
	Chond. nod. hel	2	0.06
	Porokeratosis	1	0.03
	Keloid/Scar	23	0.70
	Dermatofibroma	11	0.34
	Fibrous pap/Nose	2	0.06
	Skin tags	28	0.85
	Fibroepithelial polyp	4	0.12
	Neurofibroma	5	0.15
	Neurolemmoma	1	0.03
	Osteoma cutis	1	0.03
	Subungual osteoma	1	0.03
	Inclusion cyst	57	1.74
	Digital mucous cyst	4	0.12
	Ganglion cyst	4	0.12
	Pilar cyst	4	0.12
	Steatocystoma multi.	1	0.03
	Syringoma	1	0.03
	Syringocystad pap.	1	0.03
	Trichoepithelioma	6	0.18
	Pilomatrixoma	1	0.03
XVII.	B. Malig/Premal.	240	7.32
	Basal cell carcin.	91	2.78
	Squamous cell carcin.	16	0.49
	Melanoma	10	0.31
	Bowen's disease	7	0.21
	Keratoacanthoma	8	0.24
	Metastasis to skin	4	0.12
	Lentigo maligna	1	0.03
	Paget's dis./breast	1	0.03
	Extramammary Paget's	1	0.03
	Mycosis fungoides	1	0.03
	Actinic keratosis	100	3.05
XVIII.	Metabolic Disease	67	2.04
	Pruritus gen. N.O.S.	41	1.25
	Pruritus ani	4	0.12
	Aquagenic pruritus	3	0.09
	Pregnancy dermatosis	7	0.21
	Lichen amyloidosus	1	0.03
	Cirrhosis	1	0.03
	Diabetic dermopathy	1	0.03
	Diabetic gangrene	1	0.03
	Gout	1	0.03
	Caroteinemia	3	0.09
	Stein-Levinthal syn.	1	0.03
	Striae	2	0.06
	Pruritus vulvae	1	0.03
XIX.	Skin Dis./Phys.Agents	93	2.84
	Acute PLE**	39	1.19
	Chronic PLE**	9	0.27
	Sunburn	18	0.55
	Thermal burn	4	0.12
	Radiation dermatitis	3	0.09
	Solar elastosis	5	0.15
	Foreign body	4	0.12
	Tattoo	11	0.34
XX.	A. Mucous Membrane	23	0.70
	Cheilitis	14	0.43
	Aphthosis	3	0.09
	Balanitis	2	0.06
	Behcet's disease	1	0.03
	Geographic tongue	1	0.03
	Gingival hypertrophy	1	0.03
	Blepharitis	1	0.03
XX.	B. Psychocutaneous	10	0.31
	Dysmorphophobia	6	0.18
	Trichotillomania	2	0.06
	Parasitophobia	1	0.03
	Glossodynia	1	0.03
XX.	C. Genodermatoses	11	0.34
	Cowden's syndrome	3	0.09
	Neurofibromatosis	6	0.18
	Marfan's syndrome	1	0.03
	Noonan's syndrome	1	0.03
XX.	D. Miscellaneous	20	0.62
	Anetomderma	1	0.03
	Ulcerative colitis	1	0.03
	Cutis vert. gyrata	1	0.03
	Ear pits	4	0.12
	Hyperimmunoglobulin-E syndrome	5	0.15
	Focal mucinosis	1	0.03
	Polycythemia rub. v.	1	0.03
	Syndactaly	3	0.09
	Accessary tragus	1	0.03
	Granuloma fissuratum	2	0.06
XXI.	No diagnosis made	33	1.01

* N.O.S. = Not otherwise specified
** PLE = Polymorphous Light eruption

An added complication... in the treatment of bacterial bronchitis*



Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

Ceclor®
cefaclor

Pulvules®, 250 and 500 mg

Brief Summary Consult the package literature for prescribing information.

Indications and Usage. Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication. Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings. IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions. *General Precautions*—If an allergic reaction to Ceclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—*Pregnancy Category B*—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers—Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one hour. The effect on nursing infants is not known. Caution should be exercised when Ceclor* (cefaclor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions. Adverse effects considered related to therapy with Ceclor are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

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*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.[4]

Note: Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

References

1. Antimicrob. Agents Chemother., *8*: 91, 1975
2. Antimicrob. Agents Chemother., *11*: 470, 1977
3. Antimicrob. Agents Chemother., *13*: 584, 1978
4. Antimicrob. Agents Chemother., *12*: 490, 1977
5. Current Chemotherapy (edited by W. Siegenthaler and R. Luthy), II: 880. Washington, D.C.: American Society for Microbiology, 1978
6. Antimicrob. Agents Chemother., *13*: 861, 1978
7. Data on file, Eli Lilly and Company.
8. Principles and Practice of Infectious Diseases (edited by G.L. Mandell, R.G. Douglas, Jr., and J.E. Bennett), p. 487. New York: John Wiley & Sons, 1979

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TABLE 3.
Fifty most common diagnoses

	Diagnosis	#	%		Diagnosis	#	%		Diagnosis	#	%
1	Acne group	351	10.71	17	Pityriasis alba	65	1.98	34	Seborrheic derm.	26	0.79
2	Contact dermatitis	305	9.31	18	Lichen simplex chron.	57	1.74	36	Scar/Keloid	23	0.67
3	Verrucae	198	6.04	19	Inclusion cyst	57	1.74	37	Perioral derm.	22	0.67
4	Dermatophytosis	181	5.52	21	Folliculitis	50	1.53	37	Pityriasis rosea	22	0.67
5	Dermatitis N.O.S.	139	4.24	22	Scabies	49	1.50	39	Clavi	21	0.64
6	Tinea versicolor	114	3.49	23	Paronychiae	47	1.43	39	Keratosis pilaris	21	0.64
7	Atopic dermatitis	108	3.30	24	Drug eruption/Reac.	45	1.37	41	Molloscum contag.	19	0.58
8	Actinic keratosis	100	3.05	24	Dyshidrotic eczema	45	1.37	41	Pediculosis capitis	19	0.58
9	Basal cell carcinoma	91	2.78	26	Benign keratosis	42	1.28	43	Sunburn	18	0.55
10	Acquired nevus	87	2.65	27	Herpes zoster	41	1.25	43	Melasma	18	0.55
11	Urticaria group	82	2.57	27	Prutitus, Gen. N.O.S.	41	1.25	43	Congenital nevus	18	0.55
12	Chronic dermatitis	79	2.41	27	Seborrhea	41	1.25	46	Lentigo	17	0.52
13	Hand dermatitis	73	2.23	30	PLE (acute)	39	1.19	46	Dermatosis pap. nig.	17	0.52
14	Seborrheic keratosis	72	2.20	31	Candidosis	31	0.95	46	Nail dystrophy	17	0.52
15	Impetigo/Echthyma	70	2.14	32	Insect bites	29	0.88	49	Hemangioma	16	0.49
15	Herpes simplex	70	2.14	33	Skin tags	28	0.86	49	Squam. cell ca.	16	0.49
16	Psoriasis	65	1.98	34	Alopecia areata	26	0.79				

and one would need 5-10 years to draw significant conclusions. For instance, for the first 7 months of the second year of this study no invasive melanomas and only two lentigo malignas have been diagnosed on Kauai.

Dysmorphophobia, Group XX-B, is probably unfamiliar to most readers. The term indicates a disturbance of body im-



age and refers to patients with mono- or polysymptomatic hypochondriacal illness who present with complaints of pruritus, burning, or erythema of the face, scalp, or genitalia. They may fret over excessive facial hair or scalp hair loss. These patients are usually neurotically or psychotically depressed, and may be at some suicide risk. The entity was described by J.A. Cotterill as "Dermatological Non-disease."[3] Some of the patients who were felt to have this syndrome had been followed for months before the article appeared, and no firm diagnosis could be made. They share a characteristic persistence of complaints in the absence of clinical findings.

In Group XX-D one finds "Hyper-immunoglobulin-E Syndrome." These patients do not have Job's syndrome, but are a group with persistent and generalized dermatoses who turned out to have markedly elevated IgE levels (Table 5). Three patients (numbers 3, 4, and 5) were women who presented with an exudative scalp dermatitis which evolved into a generalized process of the autosensitization type. None of these women had a family or personal history of atopy. Coagulase-positive *Staphylococcus aureus* was grown from the scalp and other sites from these patients. The other patients had a widespread or generalized inflammatory skin disease which was unusually resistant to therapy. Elevated IgE levels may represent an aberrant immune response to a variety of common antigenic stimuli (Staphylococcus being one). Intense pruritus, excoriation, and dermatitis are concomitants of this. If it can be corroborated that IgE plays a role in the etiology of these processes, then perhaps ways to alter immune response pathways, for instance with Levamisole, may be of therapeutic value. It is recognized that in spite of their negative history, most of these patients are best labeled as atopic; but they are not classical atopics and may be a defined subgroup.

Table 6 shows the breakdown of 9 disease entities into demographic categories. In some cases more than one year's experience is depicted. Much of the data supports well-recognized features of these conditions, but some interesting and unexpected findings emerged.

For atopic dermatitis the interesting finding is the high incidence in the Filipino population. Where 27 Filipinos would have been expected, 45 Filipinos and 13 half-Filipinos are found. It has been shown that Filipino children born in the United States have a higher mean IgE level than the age-matched Caucasian children of the same social class and place of residence.[22] This may relate to immune response genes which regulate immunoglobulin production. The ability to produce large amounts of IgE is not entirely negative. It is important in handling certain infections, particularly parasitic infestations, and may confer an advan-

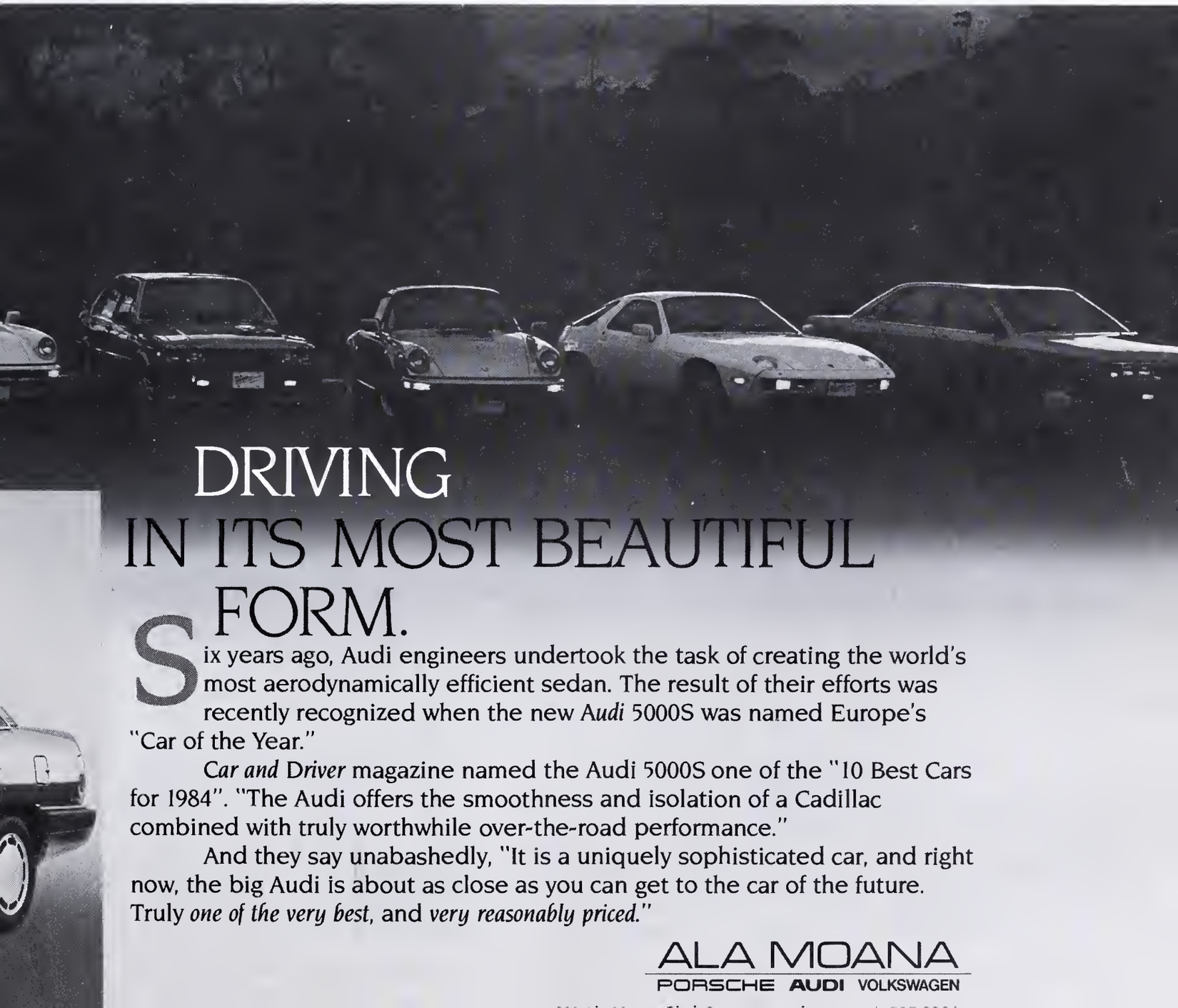


TABLE 4.
Acropustulosis of infancy

Age	Sex	Race	Comments
1. 9 mo.	F	Guamanian	All 6 family members with generalized pruritus
2. 1 yr.	F	J/Cauc	Visitor from Honduras
3. 1.5 yr.	F	Haw/Cauc	
4. 8 mo.	M	J/Cauc	
5. 2 mo.	M	H/Cauc	Scraping (+) prior to onset
6. 5 yr.	M	H/Cauc	Brother to 5
7. 3 mo.	F	Fil/J	Scraping (+) 2 occasions
8. 2 yr.	M	J/H/F/C	Scabies 9 mo. previous

TABLE 5.
Hyperimmunoglobulin E patients

Patient #	Age	Sex	Race*	IgE IU/ml	Comments
1	76	M	F	11,000	Photosensitivity dermatitis/ Actinic reticuloid
2	23	M	F	12,500	No atopic history
3	37	F	C	2,800	No atopic history
4	43	F	C	2,600	No atopic history
5	60	F	C	780	No atopic history
6	27	M	C/F	42,000	Asthma/Atopic dermatitis
7	16	F	C	6,950	Atopic dermatitis
8	14	F	pt.H	20,000	Not atopic

* C = Caucasian F = Filipino pt.H = part Hawaiian

tage in one setting while contributing to the atopic diathesis in another geographic area. This is simplistic and speculative. It would be interesting to investigate the incidence of atopy in the areas of the Philippines where our population comes from and see whether the presence of intestinal parasites has any influence on the expression of the atopic diathesis.

The distribution of herpes simplex infections is significant when one considers the racial distribution. For both oral and genital disease, there is a disproportionate Caucasian representation. The 72 Caucasian patients represent 3 times the expected number. That these data are meaningful is corroborated by the racial distribution of herpes zoster (Table 6), which closely parallels that of the population here. Epidemiologic studies have shown high proportions of seropositivity for HSV I in all racial groups and, similarly, one should not assume that non-Caucasians are spared exposure to HSV II. The observed racial difference in incidence of these infections is unexplained but may relate to the development of recurrent rather than primary disease. The maintenance of viral latency may be less successful in Caucasians than in members of other racial groups. A herpes simplex specific defect in immune surveillance could explain these findings. Alternatively, there may be sociological stimuli which induce one group to seek medical attention for a given problem more readily than another. Whatever the reason, the Caucasian bias in HSV infections is thought-provoking and is in accord with studies done on genital herpes from venereal disease clinics in the United States.

When considering tinea corporis and versicolor as a group, the low representation of the Japanese is apparent. Whereas 44 were expected, only 15 were found. One possible explanation is the Japanese custom of using a rough nylon washcloth for bathing. This effects epidermabrasion and may function to debride the stratum corneum of resident dermatophytes and pityrosporon yeasts. In Japan, the *furo* (hot bath) may also retard the growth of fungi (and other cutaneous pathogens), but this is not in fashion here. Dermatophytosis and tinea versicolor are certainly banal afflictions, but it would be mildly interesting if something as simple as a washcloth were related to a lowered prevalence. The other side of the coin is the follicular atopic dermatitis seen in the Japanese population.[3] In Hawaii the use of the rough washcloth is felt to play an important role in the pathogenesis of this atopy variant. (Personnel communication, Dr. Robert Kim, Honolulu, 1981.)

The data on basal cell carcinoma, squamous cell carcinoma, and polymorphous light eruption have been discussed above.

Table 6 shows what the compulsive collection of data from one practice can lead to. Such information can be generated in any office. It probably is more representative of the population at large than cases collected at a university hospital clinic or a tertiary referral center. Of course, the conclusions drawn are per-

TABLE 6. Demographic data

	Age										Sex		Race/Ethnicity								
Disease	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90	M	F	C	F	J	H/pH	C/J	C/F	F/J	O	#
Atopic Dermatitis	33	30	32	8	3						46	61	16	45	9	23	4	5	6		108
HSV Genital	1	2	21	16	3	1	1				24	21	39	3	2	1					45
HSV Oral	4	9	15	8	5	2	3	1	1		15	34	33	1	6	6	2	1			49
Herpes Zoster	1	10	12	10	4	7	13	5	3	3	31	37	20	17	21	4	3	3			68
Tinea Corporis	5	5	16	16	11	10	5	2			39	23	27	10	7	22	1	4		1	62
Tinea Versicolor	2	18	52	30	2	5	3	1	1		59	46	53	29	8	17	1	3		2	115
Basal Cell Carcinoma			3	17	9	14	24	26	7	1	61	39	93		6		1				100
Squamous Cell Carcinoma						6	9	3	2	2	12	10	13	1	8						22
Acute PLE	2	4	23	18	6	6	5				13	51	61		1					1	64

C = Caucasian F = Filipino J = Japanese H/pH = Hawaiian/part Hawaiian O = Other

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sonal and largely unsubstantiated, but they do result from inductive reasoning and contribute to professional satisfaction.

While it was not the purpose of this study to compare the incidence of dermatologic disease in different geographic areas, a brief look may be expected. Bannerjee and Datta[6] compared the incidence of common dermatoses seen in London (England), Mexico, and Calcutta. To this we add London (Ontario) and Kauai (Table 8). Striking differences are seen. However, one would hesitate to draw conclusions from these. The nature of the practices, the methods of data collection, and the number and level of training of the physicians collecting the information vary considerably from study to study and may invalidate facile deductions. The London (Ontario) study and the present one are sufficiently similar to start to draw conclusions, but what is really needed is a multi-practice study from various geographic and socioeconomic settings. The methods of collection should be standardized, as should the type of information collated.

Working in concert, dermatologists from varied types of practices, in different parts of our country or planet, could pool their data and have them entered in a computer which would be programmed to analyze the information. We could then start to see the true epidemiology of skin disease and learn much about the patterns of cutaneous pathology. This present study is an imperfect, tentative step in that direction.

Conclusions

This is one man's journey in an isolated dermatological practice. The findings are idiosyncratic and cannot be easily extrapolated to the specialty as a whole. The subtropical setting and the varied racial background of the Island's population make the practice unique. Differences in training, clinical experience, and particular areas of interest of participating physicians would ensure that no two studies would be entirely similar even in an identical setting. It is recognized that different dermatologists seeing the same patients would not have arrived at the same diagnoses. This is sobering and is a criticism of all such studies.

The author apologizes to more serious students if any of his glib conclusions may be found or unwarranted. The statements made and conclusions drawn show only where data collection can lead and that such a system can act as a touchstone for introspection, study, and clinical research.

This is an ongoing project. A computer program is being developed to make the collation of demographic data easier; and it is hoped that other dermatologists will be interested in joining this study. Together, we can learn much about the patterns of cutaneous disease.

TABLE 7.
Contact urticaria

#	Age	Sex	Race*	Contactant
1	37	F	C	Semen
2	24	M	C	Unknown
3	30	F	C	Peanuts
4	39	F	F	Chicken
5	25	F	C	? Nickel
6	30	F	F	Crab/Fish
7	37	F	F	Tomato/Pineapple
8	21	F	C	Paper Money
9	33	M	C	? Nickel
10	29	F	C	Grass
11	27	F	C	Papaya, Raw meat
12	62	F	C	Xylocaine
13	34	M	C	Horse sweat
14	4	M	F	Chicken
15	33	F	C	Aluminum
16	20	M	J	Garlic, Mahi
17	23	F	C/H	Salt, Garlic
18	46	F	C	Hazel nuts
19	27	F	J	Crest toothpaste
20	35	F	H	Dog & Cat Hair

* C = Caucasian H = Hawaiian
F = Filipino J = Japanese

TABLE 8.
Percent incidence of common dermatoses

Skin Disease	Lond. UK	Mexico	Calcutta	Lond. Ont	Kauai
Bacterial Infection	4.6%	6.5%	30-40%	2.5%	5.6%
Scabies	0.8	6	20	2.18	1.5
Superficial Mycoses	3.2	13	15-20	7.4	9.9
Eczemas	35.6	8-12	15-20	20.8	33.4
Acne vulg.	5.6	3	3.5	14.2	10.7
Vitiligo	NR	4	4	0.8	0.4
Verrucae	7.4	5	2	14.2	6
Psoriasis	5.6	NR	0.5- 1.5	5.25	2
Lichen Planus	1.3	NR	0.5-1.5	0.6	0.15

REFERENCES

1. Alexander S, Shrank AB: International Coding Index for Dermatology. Oxford, Blackwell Scientific Publications 1978.
2. Verhagen ARHB, Koten JW, Chaddah VK, et al.: Skin disease in Kenya. *Arch. Dermatol.* 1968; 98:577-586.
3. Coterill JA: Dermatological non-disease: a common and potentially fatal disturbance of body image. *Br. J. Dermatol.* 1981; 104:611-619.
4. Greaves MW: The urticarias, new approaches to investigation and management. *Aust. J. Dermatol.* 1981; 22:47-52.
5. Sibbald RG, Black AK, Eady RAJ, et al.: Aquagenic urticaria: evidence of cholinergic and histaminergic basis. *Br. J. Dermatol.* 1981; 105:297-302.
6. Bannerjee BA, Datta AK: Prevalence and incidence pattern of skin diseases in Calcutta. *Int. J. Dermatol.* 1973; 12:41-47.
7. Arnold HL: Poisonous Plants of Hawaii. Rutland Vermond, Tuttle 1968.
8. Mitchell J, Rook A: Botanical Dermatology. Vancouver, Greengrass 1979; p. 73-75.
9. Chase MW: Hypersensitivity to simple chemicals. Harvey Lecture 1967; 61:169-203.
10. Streilen JW, Toews GT, Gilliam JN, et al.: Tolerance of hypersensitivity to 2, 4-dinitro-1-fluorobenzene: the role of Langerhans cell density within the epidermis. *J. Invest. Dermatol.* 1980; 74:319-322.
11. Caplan RM: The circumstances of the missing biographer. *J. Am. Acad. Dermatol.* 1982; 6:319-322.
12. Scotto J, Kopf AW, Urbach F: Non-melanoma skin cancer among caucasians in four areas of the United States. *Cancer* 1974; 34:1333-1338.
13. Agrup G: Hand eczema. *ActaDerm. Venereol.* 49 1969; *Suppl.* 61:1-85.
14. Hoelzle E, Plewig G, Hofman C, et al.: Polymorphous light eruption, experimental reproduction of skin lesions. *J. Am. Acad. Dermatol.* 1982; 7:111-125.
15. Morison WL, Stern RS: Polymorphous light eruption: a common reaction uncommonly recognized. *ActaDerm. Venereol.* 1982; 62:237-240.
16. Levis WR, Schuman JS, Friedman SM, et al.: An epidemiologic evaluation of leprosy in New York, MAMA 1982; 247:3321-3326.
17. Bjornberg A, Friis B: Persistent pustulosis in children adopted from Asia: a sequela of scabies. *Int. J. Dermatol.* 1978; 17:69-73.
18. Kahn G, Rywlin AM: Acropustulosis of infancy. *Arch. Dermatol.* 1979; 115:831-833.
19. Jarratt M, Ramsdell W: Infantile acropustulosis. *Arch. Dermatol.* 1979; 115:834-836.
20. von Krogh G, Maibach HI: The contact urticaria syndrome—1982, Semin. *Dermatol.* 1982; 1:59-66.
21. Smith T: The Queensland melanoma project—an exercise in health education. *Br. Med. J.* 1979; 1:253-254.
22. Orgel HA, Lenoir MA, Bazaral M: Serum IgG, IgM and IgE levels in Filipino children in the United States. *J. Allergy Clin. Immunol.* 1974; 53:213-222.
23. Ofuji S, Uehara M: Follicular eruptions of atopic dermatitis. *Arch. Dermatol.* 1973; 107:54-55.



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HAFP Newsletter

MEMBERSHIP NEWS: We welcome **Dennis Dettloff** as a new active member. He has transferred from Michigan and is in practice in Kihei, Maui . . . **Edmund Schroeder** was reelected to active membership after having fulfilled all CME requirements . . .

PHYSICIANS' SURVEY: We continue to receive a good return on the survey of GPs/FPs in Hawaii begun earlier this year. Here, in brief, are the results of the second survey: 86.7% of respondents have a private office or consultation room for their exclusive use; 45.1% use 2 examining rooms, 25.6% use 3 and 14.6% use 4; 8.5% use only one and 6.1% use 5 or more examining rooms. 86.7% do lab work in the office. Of these, 86.7% do urinalysis, 60.2% throat cultures, 57.8% hematocrit or hemoglobin, 54.2% perform pregnancy tests and 44.6% blood sugars. Fifty-six percent perform and interpret their own ECGs, while 20.5% do neither; 6.9% perform ECGs but have another physician interpret them, and 3.6% interpret but have the tracings done elsewhere. Medications other than samples are dispensed by 41% of respondents.

The CPT4 codes used most often for new patients are 90000 (52%) and 90010 (34.7%). CPT4 codes used most frequently for a new illness for an established patient are 90060 (48.1%) and 90050 (45.5%). A total of 62.2% list one diagnosis on the majority of their insurance forms; 31.7% list 2; very few list more than that.

About 67.5% apply casts and 96.4% repair lacerations in the office. A total of 81.7% follow hospitalized patients. Distance between practice and hospital is 1 to 5 miles for 27.7%, 5 to 10 miles for 26.5%. Within walking distance from a hospital are 15.7% and another 15.7% are less than a mile from a hospital; 14.5% are more than 10 miles from the nearest hospital.

When you receive a new survey and have not sent in the previous one, please send both in together. You may use your answer sheet if need be. To ensure maximum accuracy in the results we need your continued cooperation.

CME NEWS: Through the efforts of education deputy chairman **Paul Esaki,** hospital meetings at Wilcox Hospital on Kauai are now being approved for (P)rescribed credit. **Ernest Bade** on the Big Island and **Joe Harrison** on Maui are also working to have the appropriate hospital meetings there approved for AAFP "P" credit. Please call them for details.

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The Utility of Shave Biopsy in Office Practice

Jeffrey K. Teraoka, M.D., and Allan K. Izumi, M.D.,* Honolulu

• *In 1959, Arthur and Shelley first described a procedure for sampling lesions confined to the superficial layers of the skin which was relatively simpler, quicker, and safer than other skin biopsy techniques.[1] The shave biopsy is now used primarily by dermatologists to diagnose and treat skin diseases. However, this procedure can easily be employed by the general practitioner.*

The purpose of this article is to describe shave biopsy in terms of its indications, rationale, complications, and limitations.

Method

The instrument used is the inexpensive Gillette Super Blue Double Edge Razor Blade (Fig. 1). It is flexible, easily maneuverable, and is coated with a thin layer of a bacteriostatic agent, zinc naphthenate. This blade provides an excellent cutting edge—even a scalpel blade is less efficient.[2] Before use, the double-edge blade is longitudinally broken in half. The skin lesion can range in size from less than 1 mm. to several centimeters (usually 2-4 cm.) in diameter. The site is then anesthetized with 1% xylocaine or bacteriostatic saline. The blade edge is bowed with the fingers and thumb to the desired arc conforming to the dimenions of the lesion. While the blade is advanced through the corium, the curvature and angle of the blade may be continuously adjusted to correspond to the configuration of the lesion (Fig. 2-4). The shaved specimen should be bordered by normal skin. The last attachment may be snipped off with a scissors, or shaved off with a circular twisting motion.

A technique called saucerization is used on nonfacial macular or depressed lesions and those which require a deeper portion of the lesion. The anesthetic is injected into the dermis to create an elevation or "wheal" in the skin. This may also be accomplished by pinching the tissue between the thumb and index finger. The elevated skin is then simply shaved off, creating a specimen with a slightly convex underside and defect comparatively concave.[3]

Hemostasis is accomplished by firm pressure, utilization of a number of styptic solutions including 35% $AlCl_3$ in 50% isopropyl alcohol; Monsel's solution (ferric chloride or $FeSubSO_4$); or light electrocautery (less than 10mW).[4] The site can be left open since a dry natural crust is actually the best covering. The specimen, which is still adhering to the blade, is now placed in the fixative solution for pathologic examination. When examining for fungi, the sample is transferred to a microscope slide, coated with a drop of xylene (or 20% potassium hydroxide solution), covered with a glass slip, and examined microscopically at medium power to identify the characteristic fungal hyphae in the stratum corneum.[5] Examination for scabies is done by identifying a scabetic burrow, superficially shaving off the stratum corneum, and placing the specimen on a slide with 20% potassium hydroxide, and examining directly under low magnification for the presence of scabetic mites or ova.[6]

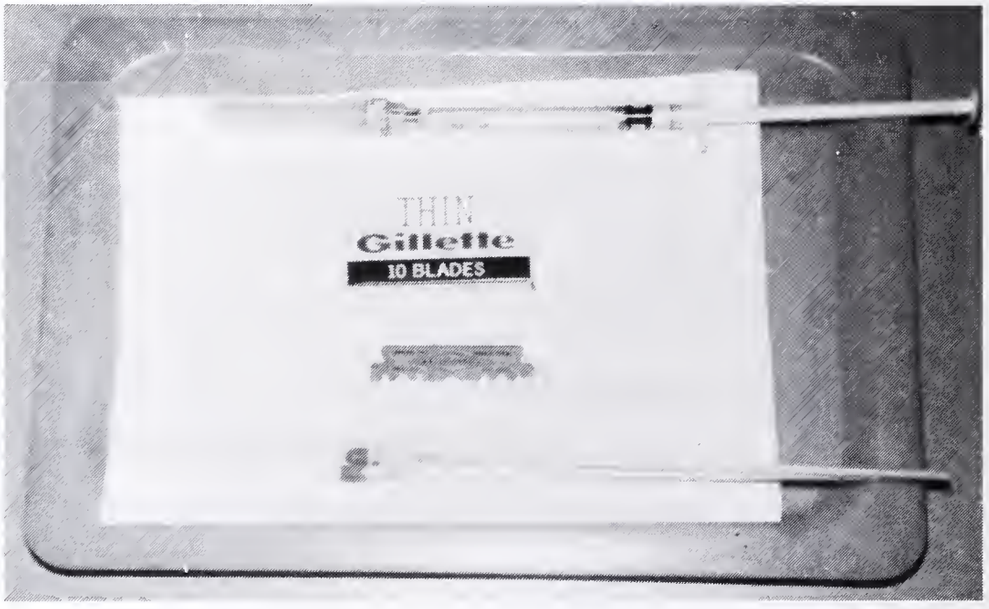


Fig. 1: Shave biopsy set-up: Xylocaine anesthetic, Gillette Super Blue Blade Double Edge Razor Blades, longitudinally bisected blade, and Monsel's Solution (Ferric Chloride).



Fig. 2: Razor blade bowed between index finger and thumb prior to shave biopsy.



Fig. 3: Addressing specimen to be biopsied.

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Discussion

The advantages of a shave biopsy of the skin over conventional skin biopsy techniques include:

(1) It is quick, simple, and requires minimal experience.

(2) It is inexpensive—the main instrument used is a Gillette Super Blue Blade Double-Edge Razor. A suture set (suture material, needle holder, forceps, etc.) is not necessary.

(3) It is a safe procedure—bleeding is superficial and can easily be controlled with light fulguration or application of styptic solutions.

(4) It is cosmetically appealing—scar formation is minimal to nonexistent.[3]

(5) Multiple biopsies may be done because of the ease and minimal discomfort of the procedure.

(6) A shave biopsy may be more successful in "biopsy-resistant" patients, including those who are squeamish, children, and persons with relative contraindicated conditions, e.g. coagulation disorders.[1]

(7) A shave biopsy is valuable when a biopsy must be obtained from certain sites where suturing is difficult, such as the nose, intertriginous areas, and genitalia. It can also be used in delayed healing areas, such as the lower extremities.[1, 2]

(8) Finally, a shave biopsy is useful as an adjunctive technique in tumors which are subsequently curetted. Because the lower dermal layers are left undisturbed, the curet can easily scrape against the strong supportive connective tissue of the dermis as a fulcrum, facilitating the curettage.[3]

The principal indications for a shave biopsy are to remove benign skin lesions confined essentially to the epidermis, and to histologically examine superficial dermatoses. The primary skin lesions which are ideal for shave biopsy removal include seborrheic keratoses, actinic keratoses, intradermal nevi (moles), and sebaceous gland hyperplasia (Fig. 5-7).

A shave biopsy has also been described for removal of warts, especially plantar warts. After the superficial wart tissue has been shaved off, liquid nitrogen, chemocautery, or complete removal by curettage of the deeper tissue may follow.[2] Microscopic diagnosis of scabies and dermatophytic fungal infections are also more successful with this technique versus the "traditional" skin scrapings method.[5, 6]

Shave biopsies can also be used to obtain histologic confirmation of diseases such as lichen planus, dermatitis herpetiformis, leukoplakia, psoriasis, bullous lesions, and eczematous reactions.[1] Some authors have even suggested that the shave biopsy is useful for the removal and diagnosis of superficial Bowen's disease (squamous cell carcinoma in situ) and basal cell carcinomas. More extensive therapy such as curettage or electrodessication should follow to ensure complete extirpation of the cancer.[3]



Fig. 4: Shave removal of lesion: Razor blade curvature and angle are adjusted to conform to configuration of lesion.

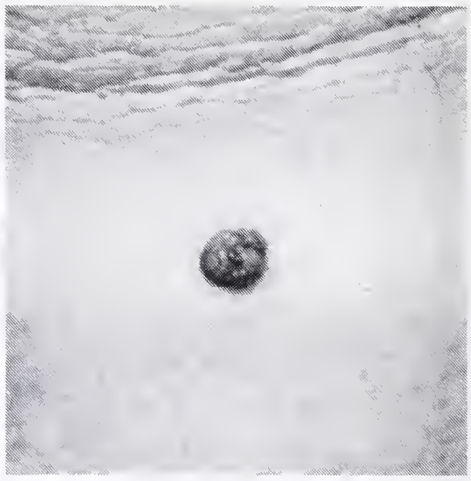


Fig. 5: Intradermal cellular nevus (mole).

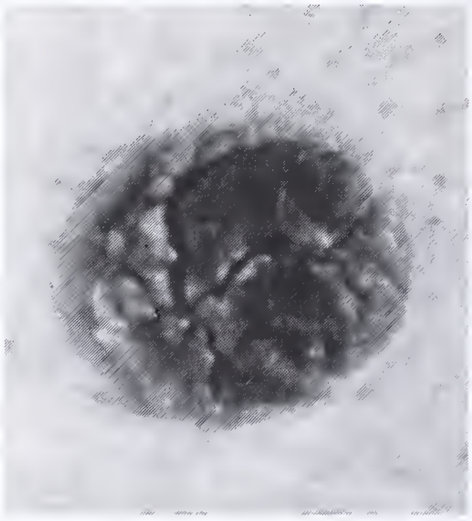


Fig. 6: Seborrheic keratosis.

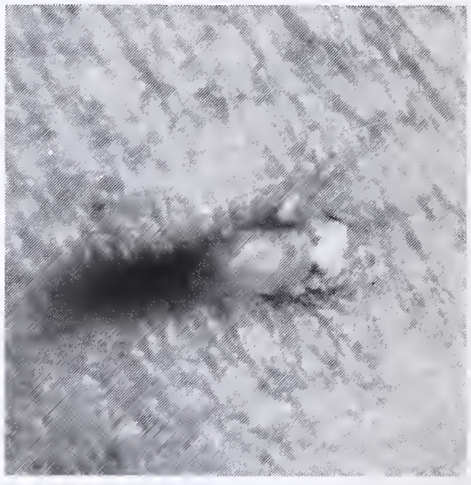


Fig. 7: Cutaneous horn (actinic keratosis, hypertrophic).

The major drawback to the shave biopsy is that it is solely limited to epidermal diseases, as it gives minimal information about dermal pathology. Therefore, skin lesions which are primarily dermal in origin, which involve the subcutaneous fat, or which require an estimate of the depth or extent of pathology are not situations where a shave biopsy is useful. Tantamount to the optimal utilization of the shave biopsy technique is a relatively accurate preliminary clinical diagnosis of the skin lesion. Fortunately, the majority of those skin lesions primarily indicated as ideal for removal by shave biopsy technique are easily diagnosable (i.e., seborrheic keratoses, actinic keratoses, moles, etc.)

The shave biopsy can therefore be an extremely useful technique not only for the dermatologist, but for the general practitioner as well. It is quick, simple, inexpensive, and safe.

The major limitations include its restricted use to diseases involving the epidermis (including the stratum corneum), and the requirement for a rather accurate assessment of the lesion prior to removal. Within the scope of this paper, however, the ideal skin lesions recommended for removal are common, and relatively easily identifiable clinically.

With this understanding of the technique, indications, and limitations, the shave biopsy will prove to be a valuable tool for the general practitioner in both treating and biopsying skin diseases.

REFERENCES

1. Arthur RP, Shelley WB: The epidermal biopsy: its indications and techniques. *Arch. Derm.* 80:95, 1959.
2. Shelley WB: The razor blade in dermatologic practice. *Cutis* 16:843-845, 1975.
3. Bart RS, Kopf AW: Techniques of biopsy of cutaneous neoplasms. *J. Dermatol. Surg. Oncol.* 5:979-987, 1979.
4. Kofp AW, Popkin GL: Shave biopsies for cutaneous lesions. *Arch. Derm.* 110:637, 1974.
5. Shelley WB, Wood MG: Stratum corneum biopsy for instant visualization of fungi. *J. Am. Acad. Dermatol.* 2:56-58, 1980.
6. Martin WE, Wheeler CE Jr: Diagnosis of human scabies by epidermal shave biopsy. *J. Am. Acad. Dermatol.* 1:335-337, 1979.

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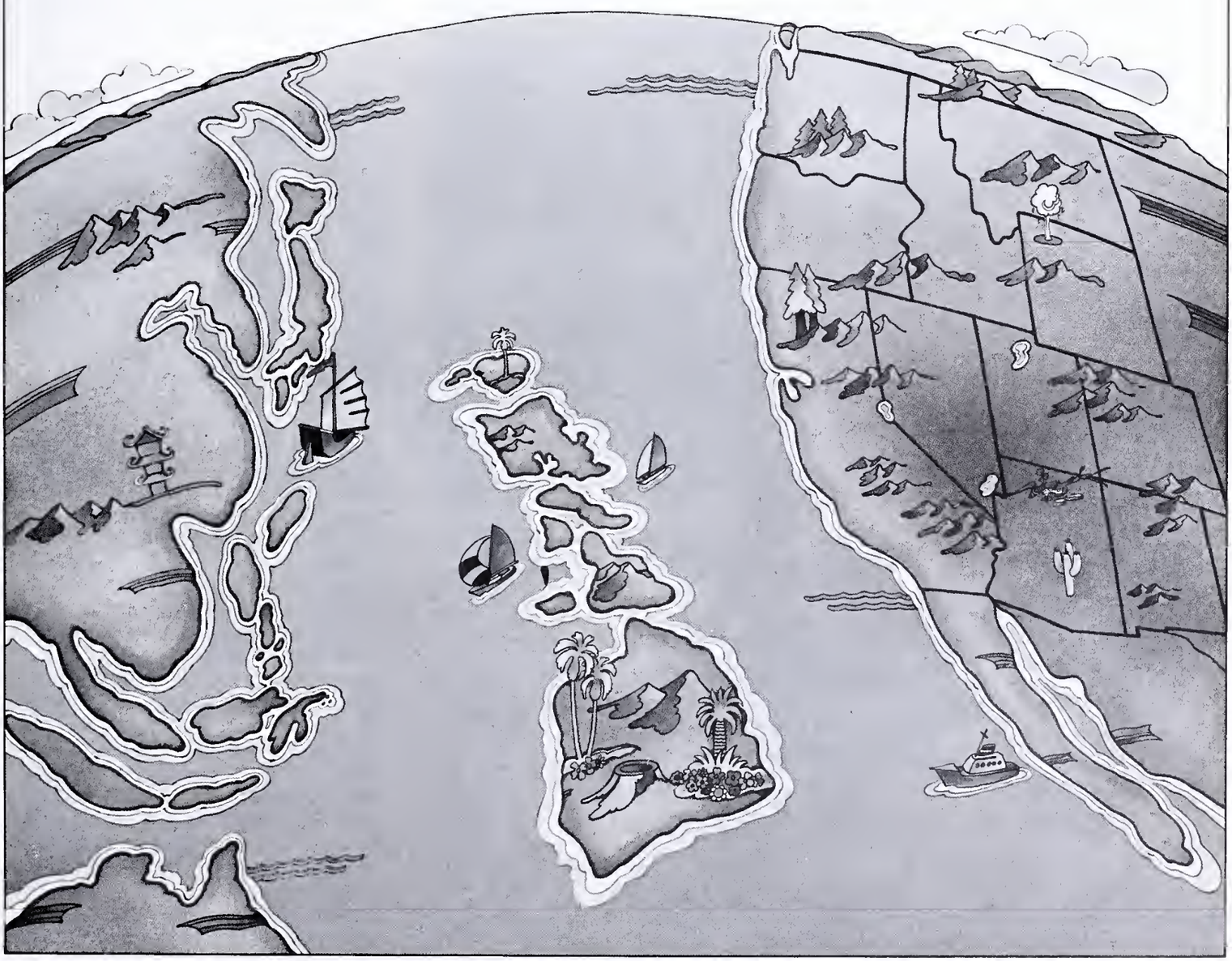
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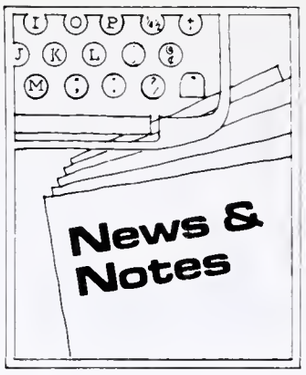
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Henry N. Yokoyama, M.D.

Elected Appointed & Honored

Waialua's **Seichi Miyasaki** has been honored by the Hawaii Academy of Family Physicians for maintaining a practice for 50 years. He still keeps part-time office hours . . . **Richard K.C. Lee** was one of 14 Hawaii citizens awarded the 9th annual Freedom Awards of the Honolulu Sortoma Club . . . **John Aoki** of Kailua was elected president of the Hawaii Chapter of the American Academy of Family Physicians . . . Wahiawa General Hospital elected **Manuel Abundo Jr.** chief of staff; **Edmund Schroeder,** vice chief of staff; and **William Clevenger,** secretary . . . **Alvin Omori,** who completed his pathology residency at QMC, was appointed deputy chief medical examiner . . .

The Hawaii Chapter of the American Academy of Family Physicians also elected **Mona Bomgaars** president-elect; **Robert Hollison,** secretary; **Donald Farrell,** treasurer; **Thomas Cahill,** delegate to the national academy; **Nathan Wong,** alternate delegate; and **Howman Lam, Kenneth Steinwog,** and **Nathan Wong,** councilors. Besides **Seichi Miyasaki,** four others were honored for practicing 50 or more years . . . **Robert Benson** (posthumously), **Hing Biu Luke** of Honolulu, **Edward Underwood** of Wailuku, Maui, and **Garton Wall** of Honolulu . . .

William Montgomery, chief of the department of anesthesiology and director of the critical care units at Straub, was selected chairman of the National Conference on Cardiopulmonary Resuscitation and Emergency Cardiac Care, scheduled for July 1985 in Dallas.

The Philippine Medical Association of Hawaii elected **Erlinda Cachola** president, **Fortunato Elizaga** president-elect, and **Efren Baria** treasurer. **Ernesto Espaldon, Reuben Guerrero, Amelia Jacang, Danilo Ponce, Quintin Uy,** and **Ben Realica** were elected members of the Board of Governors . . .

Hawaii's 1984 nominees for the national Thomas Jefferson Award included plastic surgeon **Ernesto Espaldon,** who has been spending his vacation time for the past 10 years treating the ills of poor villagers in the outback of his native Philippines, and a general surgeon's wife, **Marjorie Norris Yoshida,** who has been a volunteer at Kuakini for the past 24 years

. . . Marjie started with the information desk, began dispensing "tray favors," ran bake sales, chaired committees, served twice as president of the Auxiliary, and opened the hospital gift shop . . .

When away from the hospital, Kaiser OB/Gyn man **Gordon Ing** is a talented song and dance man who has appeared in at least 10 plays since 1980 . . . In his latest musical, Gordon is Ralph Rackstraw in the Ruger Theatre production "HMS Pinafore." In the past, he has been Jocko-O the puppeteer in "Carnival" and even sang in falsetto as Mary Sunshine in "Chicago." Gordon learned make-up from the women in the show, and it took a while to learn to walk in high heels; his children were a little embarrassed when they saw their father as Mary Sunshine . . . "Oh, my God! That's my Dad?"

Honolulu is one of 15 centers selected by Burroughs Wellcome and the FDA for a 2-year test of Acyclovir. **Ralph Hale,** chairman of the OB/Gyn department of the John A. Burns School of Medicine, called an 11 a.m. press conference to announce the news and by 1 p.m. he had a half a dozen volunteers for the program . . . Ralph feels that Honolulu has the same 2% of the total population with genital herpes as the national level. Preliminary tests with Acyclovir have shown a 70 to 80% effectiveness in preventing recurrence of herpes . . .

In April, with Mauna Loa's eruption threatening Hilo residents, FP **Paul Geiger** placed an ad in the Big Island newspaper advising his patients to "pick up your medical records if the lava threatens Hilo." Mayor Herbert Matayoshi urged Big Islanders of all persuasions to pray, chant, or otherwise communicate with "our creator for guidance, protection, and assistance in the hour of need." Mom-and-pop stores, gas stations, and cafes have had tattered signs for years which read, "In the event of an eruption (or tsunami), remain calm. Pay your bill. Then run like hell."

Richard Warsnick, nuclear med man at Kuakini Medical Center, has examined some 2,500 persons (half of them women) for osteoporosis since 1979. Dick and co-investigator **John Vogel** are using nuclear med techniques for measuring the mineral content in the heel bones, forearms, and spines. The study is intended to pinpoint those most likely to have rapid bone loss and to determine which patients need the most aggressive treatment. An unexpected finding is that those on diuretic therapy with thiazides retain calcium in their bones better than others . . . Dick says, "The trouble is that only 10 percent of women know anything about osteoporosis or are getting some sort of care for it."

Phyllis Wright, who retired as head of the crippled children services branch of DOH, reports that at least 20 flagrant cases of birth defects in Hawaii in recent



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times were caused by mothers who drank excessively during pregnancy during the past 10 years . . . but that those 20 cases represented only a small percentage of the actual number of children affected by the fetal alcohol syndrome in Hawaii . . .

The Bayanihan Health Services at St. Theresa's Church on North School Street was founded by **Cesar de Jesus** and fellow volunteers in March 1981 . . . From 1981 to 1983, 86% of the more than 3,600 people treated at the clinic were Filipino immigrants, with the remaining 14% local residents and a few refugees. **Claude Caver** is the only Caucasian doctor among the Filipino physicians and jokes that he's "the only red-headed Filipino" at the clinic . . . Claude is among a pool of 35 bilingual physicians and three nurses who work around a duty schedule of 5 to 7 p.m. Monday through Friday . . . The patients donate from 25 cents to $25 . . .

Symposium on Stress . . .

A Symposium on Stress Management for the Health Care Professional . . . Sunday, May 20, 1984 . . . The annual Lederle Sunday symposiums have always been par excellence, and this year was no exception . . . As HMA President **Sakae Uehara** pointed out, "These sessions sponsored by Lederle have a tradition of excellence, and looking at the list of speakers, I know the tradition will be continued . . ." The symposium this year was on "Stress Management of the Health Care Professional" and the list of speakers included such notables as Gary Dawon, assistant professor of clinical pharmacy at Idaho State University College of Pharmacy; Dean Terence Rogers of our John A. Burns School of Medicine (the luncheon speaker); **Russell Hicks**, associate professor of medicine, John A. Burns School of Medicine; Hermann Witte, director of behavorial psychology, University of Nebraska Medical Center; and Beverley Mead, professor of psychiatry, Creighton University School of Medicine . . .

"We're going to have a very happy day discussing stress . . . stress is a term borrowed from engineers . . . a too general term which means "what impinges on us and how the body reacts" . . . How I see the human situation . . . No two individuals are the same . . . But we have in common: 1. Needs (We are driven people . . . we have to do something . . .) 2. Conflict (What we have to adjust to)

NEEDS_____ X ____ STRESS
Anxiety

"We have to confront frustration with EGO STRENGTH: The child has very little ego strength . . . We develop ego strength with adulthood . . .

"Mechanisms: The more mechanisms we develop to cope with stress, the less stress we have . . . With a good balance of mechanisms we can deal with stress . . . Anxiety leads to depression . . . Both anxiety and depression are emotional reactions accompanied by physiological changes . . .

"Example: The med student taking biochemistry . . . He is anxious (the physiological reactions are sympathetic reactions, i.e., he is "hyper," anxious, nervous). The zone of reaction in anxiety is from the head to the belly button . . .

"He becomes depressed . . . (the physiological reactions are lack of drive, no energy, "draggy," no pep, lethargic) . . . With anxiety, as the level tends to fall, depression (which starts a little later) begins to rise and at some point there is half anxiety and half depression . . .

"Biological anxiety and biological depression . . . The biological reaction to stress is a genetic predisposition as well as other factors . . . i.e., there are anxiety-prone individuals and depression-prone individuals . . .

"Is stress increasing? "Probably. I think it is . . . At least the quality of stress is changing . . . Stressful problems are more abstract today . . . especially in our technologically oriented society, i.e., interpersonal kinds of problems . . .

"What is stress? My favorite definition is, 'Anything that comes along to cause reaction.' Stress is a comfortable term . . . from the president on down . . . everyone has stress . . . If you don't have stress, you are a nobody . . ."

More on stress in the next News & Notes column.

Time for a couple of stories . . .

The two buddies, Bob and Jack went duck hunting in the Everglades . . . Bob wore waders and warned Jack, "You better wear waders because there are snakes around" . . . Jack replied, "Hog wash! I've never seen any around . . ." Sure enough, while they were busy firing at flights of ducks, Jack was bitten on his penis by a furtive water moccasin . . . They rushed to dry land where their truck was parked and Bob got on the two-way radio and got in touch with Doc . . . "What should I do first, Doc?" Doc: "You must expose the bite marks by making deep incisions with your hunting knife." So Bob summoned his courage and made the necessary incisions while Jack hollered in agony . . ." "What do I do next, Doc?" Doc: "You must suck out the poison . . ." Bob turned to Jack with the most forlorn look . . . Jack, "Hurry! What did Doc say?" Bob: "Doc says you're going to die . . ." (As told by Judy and Dennis Lind)

* * *

Norman Cousins, former Saturday Review editor, wrote "Anatomy of an Illness" and claimed that he was cured of "Alkalosis Spondylitis" by laughing constantly . . .

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Clinical Pathologist's Easy Chair

Francis H. Fukunaga, M.D.

ASO, Febrile Agglutinins, ESR and CRP

ASO (antistreptolysin O) is produced in response to the streptolysin O antigen in group A (and a few group C and G) streptococci. The titers begin to rise in about 2 weeks after an acute streptococcal infection and reach a maximum of 4 to 6 weeks. The test is significant only when there is a change in titer during a 10- to 14-day interval. Persistent normal values are a good indication that there is no streptococcal infection. The test consists of mixing dilutions of the patients' serum with a buffer and the antigen (group A streptococci) and incubation with 5% human or rabbit red blood cells. The end point is the highest serum dilution that gives NO hemolysis (i.e., all the streptolysin was inactivated). The reciprocal of the end point is referred to as "Todd Units".

About 10% of patients with a streptococcal infection may be negative. Penicillin, within 5 days of the onset of symptoms of pharyngitis, suppresses the magitude and delays the onset of the ASO response. Only 40% of the patients had a fourfold or greater increase of titers in treated vs. 90% in untreated patients. After 60 days, 80% of the treated and 100% of the untreated cases had ASO responses.[1] ASO is the most commonly used test, but there are other streptococcal antibodies produced in response to group A streptococcal infections. The ASO is considered the best single test to document antecedent streptococcal infection. Streptozyme measures antibodies to streptolysin O, DNA, hyaluronidase, NAD and streptokinase, but, when the antibody titers are only minimally elevated, the streptozyme results are falsely negative. Only 28% of sera with slight but unequivocal ASO titers had positive streptozyme reactions.[2]

The febrile agglutinins are one of the most misused laboratory tests. The titers against the typhoid O and H, paratyphoid A and B may be misleading and inconclusive. The antibodies to the somatic (O) antigens begin to rise by the end of the first week in 50% and by the end of the fourth week in 90%. The normal titers are about 1:80. The flagellar (H) antibodies rise more slowly and remain elevated a few years. Normal titers may be about 1:40. These tests must be done in series, and a fourfold titer rise is considered significant.

With improved methods of isolating the Salmonellae, the detection of agglutinins in sera have lost much of their former importance.[3]

The brucella antibody rises during the second week and a titer of 1:320 is presumptive evidence of acute disease although the titers are usually higher. Nonspecific agglutination tests using Proteus OX 19, OXK and OX 2 for rickettsial infection have largely been replaced by the more specific complement fixation tests.

Erythrocyte sedimentation rate (ESR) is the measure of the increased tendency of red blood cells to sediment in certain pathologic conditions, especially inflammation. The rate also rises with malignancies and pregnancy, with a return to normal about one month postpartum. The ESR measures the suspension stability of erythrocytes and is a rough measure of fibrinogen and serum globulins. Albumin retards sedimentation, and fibrinogen and the globulins increase the rate. There are modifying factors such as an increased sedimentation rate with anemia, more rapid with macrocytic and slower with microcytic anemias. The anticoagulants, oxalate and heparin, may affect the rate, but citrate and EDTA do not. ESR is used to follow inflammatory diseases such as the rheumatic or connective tissue diseases and may be used in predicting prognosis. It is also used to call attention to some occult diseases where other tests are negative but the ESR may be misleading in some instances, especially in elderly patients.

CRP (C-Reactive Protein). It is a protein that forms a precipitate with the somatic C-polysaccharide of the pneumococcus. It is not specific for any particular disease. CRP is a sensitive indicator of inflammation of infectious or noninfectious origin and tissue breakdown. It is an acute phase reactant along with alpha-1 acid glycoprotein, haptoglobin, ceruloplasmin and alpha-1 antitrypsin. It is produced in the liver but the mediator for its release into the circulation is not known. CRP migrates in the gamma range in electrophoresis.

CRP has some advantages over the ESR. ESR must be determined within 2 to 3 hours after drawing the blood specimen, but CRP is done on serum that can be stored up to 72 hours in the refrigerator. CRP is not affected by anemia or alteration of the protein fractions as is the ESR.

CRP rises after surgery and gradually returns to normal. However, if there is a postsurgical infection, the CRP remains elevated.[4] A sudden rise of the CRP correlates with renal graft rejection. Acute SLE shows little or no CRP response while it is usually increased in rheumatoid arthritis. The best use of CRP is the indicate bacterial infection in at risk patients e.g., in SLE.[5] CRP is increased in pyelonephritis by not in localized cystitis.

REFERENCES

1. Denny FW et al.: Type specific streptococcal antibody. *J. Clin. Invest.* 36:1092-1100, 1967.
2. Kholy AE et al.: Specificity and sensitivity of streptozyme test for detection of streptococcal antibodies. *Appl. Microbiol.* 27:748-752, 1974.
3. Freter R: Agglutinin Titration (Widal) for the diagnosis of enteric fever and other endobacterial infections. *Manual of Clin. Microbiology,* PP. 285-288, 1976.
4. Fischer CL et al.: Quantitation of acute phase proteins postoperatively. *AJCP* 66:840-846, 1976.
5. Van Lento F: The diagnostic utility of C-Reactive protein. *Human Path.* 13:1061-1063, 1982.

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CONTENTS

Continuing Medical Education—Local Ongoing Programs 293

Continuing Medical Education—Special Events 296

Editorials—Ken: Our Perceptive U.S. Senator and The Physician versus Society 297
J.I.F. Reppun, M.D.

The World Medical Association and Medical Ethics 298
Andre Wynen, M.D.

Ethical and Practical Public Relations for the Physician 300
Jerri Liberman, B.A.

Care of the Elderly and Chronically Ill 302
George H. Mills, M.D.

News and Notes 308
Henry N. Yokoyama, M.D.

The Fiji School of Medicine—A Brief History 314
Alan H. Penington, O.B.E., M.D.

Hawaii Academy of Family Physicians' Newsletter 318
Dr. Don and Mrs. Marlies Farrell

Trace Metals and Atherosclerosis 320
Karl K. Fukunaga and Francis H. Fukunaga, M.D.

Biography—Garton E. Wall, M.D. 50 Years of Practice 324
J.I.F. Reppun, M.D.

Medical History in the Islands—Leprosy in Hawaii, 1889-1976 328
Charles S. Judd, Jr., M.D.

From Henry Yokoyama's Joke Bag 334

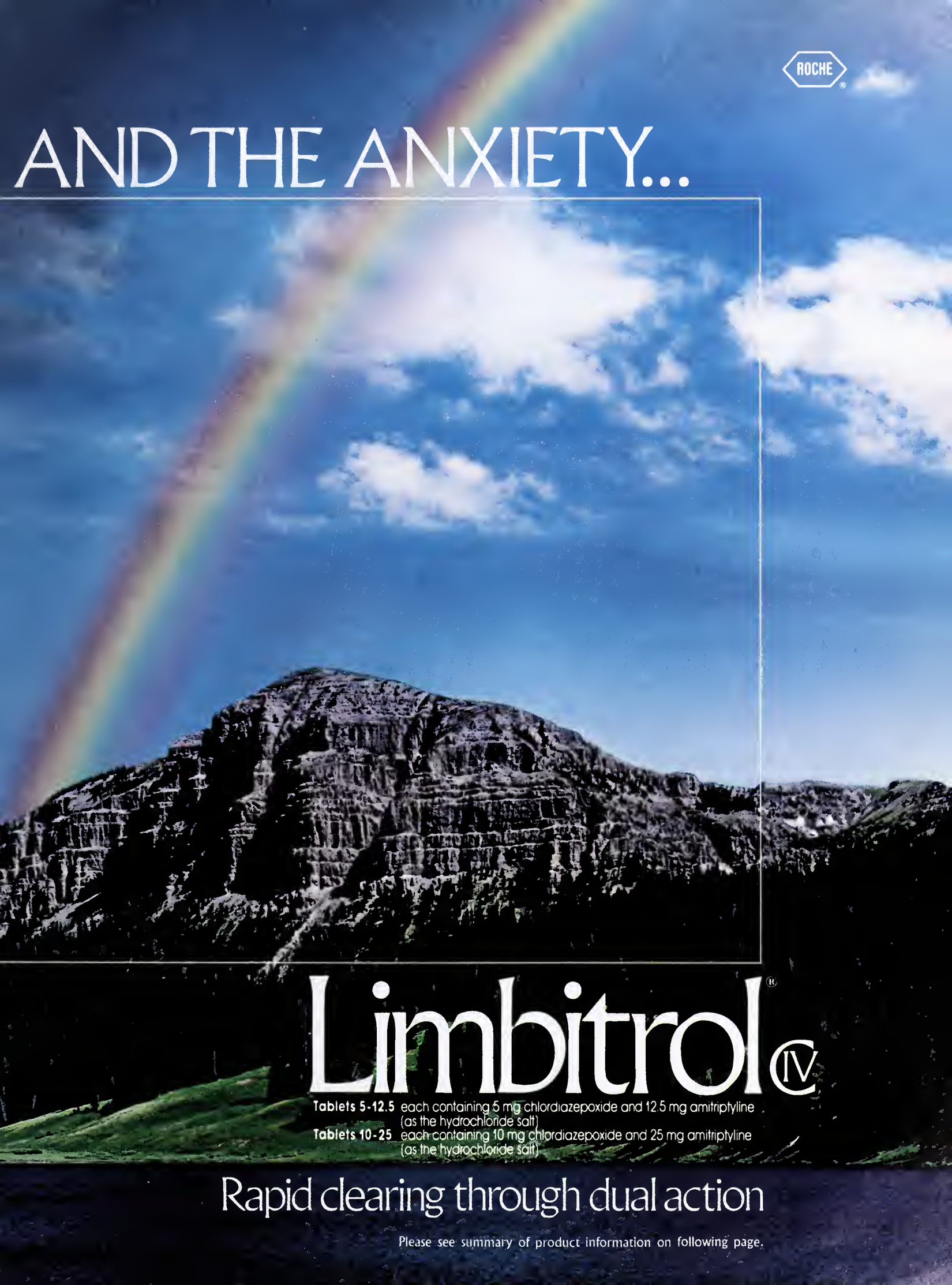
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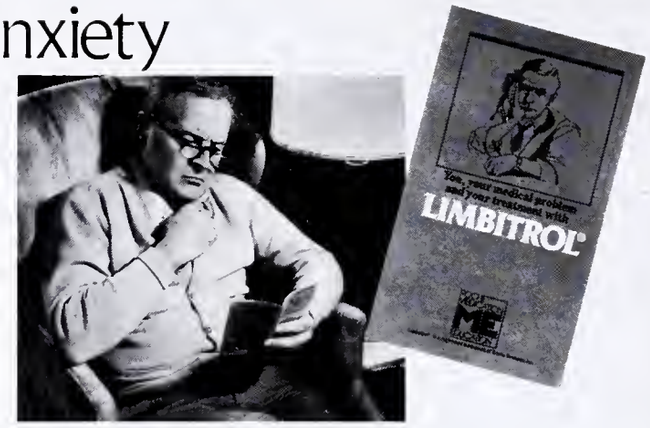
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*Feighner JP: *Psychopharmacology 61*: 217-225, Mar 22, 1979.



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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of moderate to severe depression associated with moderate to severe anxiety

Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use; then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.

Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients. (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage. Withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline; symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs:

Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke

Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido

Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns

Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract

Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus

Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue

Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion

Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling

Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single h.s. dose may suffice for some patients. Lower dosages are recommended for the elderly.

Limbitrol 10-25, initial dosage of three or four tablets daily in divided doses, increased up to six tablets or decreased to two tablets daily as required. Limbitrol 5-12.5, initial dosage of three or four tablets daily in divided doses, for patients who do not tolerate higher doses.

How Supplied: White, film-coated tablets, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) and blue, film-coated tablets, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500, Tel-E-Dose* packages of 100, Prescription Paks of 50.

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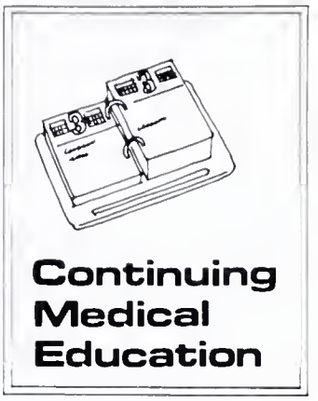
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Continuing Medical Education

CALENDAR OF ACCREDITED EVENTS—CATEGORY 1

Accredited Programs of CME allow one unit of AMA credit for each hour of instruction excluding all "breaks." Some programs also are accredited for AAFP prescribed credit (asterisked).

LOCAL ACCREDITED PROGRAMS
ONGOING

American Cancer Society, Hawaii Pacific Division

1. Telephone Task Force w/G.N. Wilcox Memorial Hospital, First Thursday, 12:45 p.m. Held on Oahu at Am. Cancer Society main conf. room, 200 N. Vineyard, Honolulu.
2. Windward Oncology Conference w/Castle Memorial Hospital. Second and Fourth Tuesday, 12:30 p.m.

John A. Burns School of Medicine

1. Dept. of Medicine
 - *A. Case Conferences, Second and Fourth Tuesdays, 12:30-1:30 p.m., Queen's University Tower, Room 618.
 - *B. Grand Rounds, First and Third Tuesdays, 12:30-1:30 p.m., Queen's University Tower, Room 618.
 - C. Endocrinology Grand Rounds, Second Thursday, 5:30-6:30 p.m., Queen's University Tower, Room 506.
 - D. UH-Queen's Conference, Every Friday, 8:00-9:00 a.m., Queen's Medical Center, Mabel Smythe Auditorium.
 - E. Cardiology Grand Rounds, Third Tuesdays, 5:30-6:30 p.m., Queen's University Tower, Room 508.
 - F. Infectious Disease Grand Rounds, Second and Fourth Tuesdays, 5:00-6:00 p.m., Queen's Nalani I Conference Room.
 - G. Dermatology Grand Rounds, Second Wednesday, 7:30-9:30 a.m., Queen's Medical Center, Queen Emma Clinic.
 - H. Pulmonary Grand Rounds, Fourth Monday, 12:30-1:30 p.m., Queen's Medical Center, Kamehameha Lounge.
 - I. Nuclear Medicine Ground Rounds, Third Wednesday, 5:00-6:30 p.m., Straub Hospital, Doctors' Dining Room.
 - J. Medical-Surgical GI Grand Rounds, Third Friday, 12:45-1:45 p.m., Kuakini Hospital, PB4 Classroom.
 - K. Hematology Grand Rounds, Fourth Monday, 12:30-1:30 p.m., Queen's University Tower, Room 721.
 - L. Nephrology Conference, First Monday, 1:00-2:00 p.m., St. Francis Hospital, Sullivan IV Classroom.
 - M. G.I. Journal Club, First Thursday, 5:00-6:00 p.m., Straub Clinic and Hospital, Fourth Floor Conference Room.
2. Dept. of Obstetrics and Gynecology
 - *A. Grand Rounds, Every Wednesday, 7:30-8:30 a.m., Kapiolani-Children's Medical Center, Second Floor Auditorium.
3. Division of Orthopedics
 - A. Fracture Conference, Every Monday, 5:00-6:00 p.m., Queen's University Tower, Room 618.
4. Dept. of Pediatrics
 - A. Grand Rounds, Every Thursday, 8:00-9:00 a.m., Kapiolani-Children's Medical Center, Second Floor Auditorium.
 - B. Pediatric Monday Noon Conference, 12:45-1:45 p.m., Kapiolani-Children's Medical Center, Second Floor Auditorium.
 - C. Pediatric Infectious Disease Conference, Every Thursday, 12:30-1:30 p.m., Kapiolani-Children's Medical Center, Conference Room B.
 - D. Perinatal Grand Rounds, Every Friday, 8:15-9:15 p.m.,

Kapiolani-Children's Medical Center, Conference Room B.

5. Dept. of Psychiatry
 A. Grand Rounds, Every Friday, 8:00-9:30 a.m., Queen's University Tower, Room 618. Canceled during summer.
6. Dept. of Surgery
 A. Grand Rounds, First, Second, and Third Saturdays, 7:30-9:00 a.m., rotating hospitals.
 B. Statistical M and M, last Saturday, 7:30-9:00 a.m., rotating hospitals.
 C. Journal Club, First and Third Tuesdays, 6:00-8:00 p.m., Queen's University Tower, Room 620.
 D. Medical-Surgical GI Rounds, Third Friday, 12:45-1:45 p.m., Kuakini Medical Center, PB4 Classroom.
 E. Pediatric Surgical Grand Rounds, First Friday, 12:45-1:45 p.m., Kapiolani-Children's Medical Center, Conf. Rm. 5.
 F. Basic Science Lecture, Wednesdays, 7:15-8:15 a.m., Queen's University Tower, Room 618.
*7. Dept. of Family Practice
 A. Conference, Fourth Wednesday, 1:00-2:00 p.m., Kapiolani-Children's Medical Center, Second Floor Executive Dining Room.

Hawaii Ophthalmological Society

1. Monthly dinner meeting, Third Thursday of each month canceled July, August and December. Contact: O.D. Pinkerton, M.D., at (808) 943-0009.

Hawaii Thoracic Society

1. Case presentations & current research in pulmonary medicine with U. of H. Sinclair Chest Club, Third or Fourth Wednesdays, each month, 6:00 a.m.-7:30 p.m. Contact: Rosemary Respicio, B.S.N., at (808) 537-5966.

Hilo Hospital

1. Tumor Conference, First Friday, 12:30 p.m.
2. X-ray Conference, Second Friday, 12:30 p.m.
3. Clinical Pharmacology, Third Friday, 12:30 p.m.
4. Pathology Conference, Fourth Friday, 12:30 p.m.
5. ETV and Visiting Professors, Saturdays, 7:00 a.m.
6. Medical Ethics Conference, as announced.

Kaiser Hospital

1. Medicine Grand Rounds, Every Tuesday, 8:00 a.m. Pac. Aud. 1 hr. Cat. 1.
2. Tumor Board, Every Tuesday, 12:00. Pac. Aud. 1 hr. Cat. 1.
3. OB/Ped. Perinatal Mortality Conference, Last Tuesday, each month. 8:00 a.m. 1 hr. Cat. 1.
4. Surg. Grand Rounds, Every Friday, 8:00 a.m. Pac. Aud. 1 hr. Cat. 1.
5. Saturday Morning Educational Conference, Every Saturday, 7:30 a.m. Pac. Aud. 1 hr. Cat. 1. (Contact CME Dept.-Kaiser for further information.)
6. OB-Path Conference, First Monday of each month, 8:00 a.m., 1 hr.

Kuakini Medical Center

1. Visiting Professor Program (for further info contact CME Dept. at 547-9226 as these programs subject to change).
2. Nephrology Conference, Third Monday, 12:00 p.m., Makai Conference Room.
3. Dept. of Ophthalmology. First Tuesday, 12:30 p.m., Private Dining Room.
4. Medical M&M Conference Dept. of Medicine, Fourth Tuesday, 1:00 p.m., Hale Pulama Mau Auditorium.
5. G.I. Conference, Second Wednesday, 12:30 p.m., Makai Conference Room.
6. Oncology Conference, Every Thursday, 7:30 a.m., PB-5 Conference Room.
7. Pulmonary Conference, Second Thursday, 1:00 p.m., Makai Conference Room.
8. Hematology Conference, Third Thursday, 12:30 p.m., Makai Conference Room.
9. Surgical Conference, First and Second Friday, 12:45 p.m., PB-5 Conference Room.
10. Surgical M&M Conference, Fourth Friday, 12:45 p.m., PB-5 Conference Room.

Maui Memorial Hospital

1. Thursday Conference, 7:00-8:00 a.m., Auditorium.
 First—Dept. of Medicine
 Second—Dept. of Surgery
 Third—Dept. of OB/GYN
 Fourth—Dept. of Pediatrics
 Fifth—Elective
2. Tumor Board, Every Second Friday, 7:00-8:00 a.m., Hospital Multi Purpose Room.
3. Dept. of Emergency Medicine, Third Monday, 9:00-10:00 a.m.
4. Anesthesia Conference, Second Wednesday, 7:00-8:00 a.m., Hospital Dining Room.

The Queen's Medical Center

1. ENT Conferences, First and Second Fridays, 7:30 a.m., Small Dining Room.
2. Medical Conferences, Every Friday, 8:00 a.m., Mabel Smyth Auditorium.
3. OB/GYN Conferences, Every Monday, 1:00 p.m., Kam Auditorium.
4. Ophthalmology Conference, Fourth Tuesday, 4:30-6:30 p.m., Queen Emma Eye Clinic.
5. Orthopedic Conferences, Every Wednesday, 7:00 a.m., Kam Auditorium.
6. Pathology Conferences, Every Wednesday, 7:00 a.m., Nalani I Conference Room.
7. Pediatric Grand Rounds, Fourth Thursday, 12:30 p.m., Harkness Board Room.
8. Surgical Trauma Conference, Second Tuesday, 4:30 p.m., Kam Auditorium.

St. Francis Hospital

1. SFH-UH Tumor Conference, Every Monday, 7:30 a.m., Sullivan-4 Classroom.
2. EENT Meeting, First Tuesday, 7:00 a.m., Sullivan-4 Classroom.
3. SFH-UH Hematology Conference, Third Thursday, 12:30 p.m., Sullivan-4 Classroom.
4. SFH-UH Surgical Grand Rounds, First, Second & Third Fridays, 7:30 a.m., Sullivan-4 Classroom.
5. Visiting Professor Programs (for further info call CME office at St. Francis).

Straub Clinic & Hospital

1. Cardiac Surgery Conference meets the Fourth Tuesday of each month, from 4:30-5:30 p.m., in the Doctors' Dining Room (1 hr. CME credit).
2. Community Peripheral Vascular Conference meets the Third Thursday of each month from 5:00-6:30 p.m., in the Doctors' Dining Room.
3. Department of Anesthesiology meets the Second Tuesday of each month from 7:00-8:00 a.m., in the Doctors' Dining Room.
4. Friday Noon Conference meets Every Friday of each month from 12:30-1:30 p.m., in the Doctors' Dining Room (1 hr. CME credit).
5. Medical Morbidity and Mortality Conference meets the Third Tuesday of each month from 7:00-8:00 a.m., in the Doctors' Dining Room (1 hr. CME credit).
6. Neuropathology Conference meets every Fourth Saturday of each month from 8:00-9:00 a.m., in the Doctors' Dining Room (1 hr. CME credit).
7. Patient Care Conference, formerly Straub Professional Seminar, meets every Second Tuesday of each month from 5:00-6:00 p.m. in the Doctors' Dining Room (1 hr. CME credit).
8. Surgical Morbidity and Mortality Conference meets every Fourth Thursday of each month from 7:00-8:00 a.m., in the Doctors' Dining Room (1 hr. CME credit).
9. Visiting Professor Conference meets periodically on Thursday from 7:00-8:00 a.m. in the Doctors' Dining Room (1 hr. CME credit).

* Note: All conferences subject to change. Monthly calendar is available upon request.

Wahiawa General Hospital

1. 1-2 p.m. seminars. Every Tuesday. Contact: June, 621-8411. Ext. 205.

Wilcox Hospital (Lihue)

1. General Medical Staff Meeting, Quarterly in January, April, July & October.
2. Clinical Review Meeting, Every Monday at Noon, during the month of March. Starting April through September Clinical Review Meeting, Every Tuesday at Noon, except the last Tuesday of the month.
3. Tumor Conference, First Thursday.

Miscellaneous

HMA Maternal and Perinatal Mortality Study Committee, First Monday, 5:30 p.m. 320 Ward Ave., Suite 200. Cat. 1 on hr. for hr. basis.

Hawaii Melanoma Tumor Board. Third Friday every month, 12:30-1:30 p.m., Cancer Research Center, 1236 Lauhala St., Room 501. (1 hr. CME credit)

CME Special Events are listed on the following page



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SPECIAL EVENTS

All special events should be confirmed with the CME program sponsors, as cancellations are not necessarily reported to the HAWAII MEDICAL JOURNAL.

Oct. 1-5, 1984	International Symposium on Medical Transportation—An Emerging Subspecialty. At: Honolulu.
Oct. 6-12, 1984	UCLA Arthroscopy. Contact: Janet Frank, Department of Health Sciences, Room 614, 10995 Le Conte Avenue, Los Angeles, Calif. 90024. At: Maui Marriott.
Oct. 6-13, 1984	Cardiology at University of Southern California, USC School of Medicine, Dean, Postgraduate Division, 2025 Zonal Avenue, KAM 307, Los Angeles, Calif. 90033, (213) 224-7051. At: Mauna Kea Beach Hotel.
Oct. 13-21, 1984	9th Annual International Body Imaging Conference. Contact: Medical Seminars International, Inc., West Park Hospital Medical Office Building, 22135 Roscoe Boulevard, Suite 104, Canoga Park, Calif. 91304, (818) 340-0580, ext. 280. At: Royal Lahaina or Hyatt Regency Maui.
Oct. 20-27, 1984	9th Annual Pediatrics for the Practitioner. Contact: Miller Children's Hospital, Memorial Medical Center of Long Beach, 2801 Atlantic Avenue, P.O. Box 1428, Long Beach, Calif. 90801-1428, (213) 377-5591. At: Mauna Kea Beach Hotel, Kawaihae, Hawaii.
Oct. 20-27, 1984	New Approaches to the Evaluation of Neoplastic Lymphoproliferative Disorders, co-sponsored with University of Southern California School of Medicine Department of Pathology. Contact: Dee Chang, University of Hawaii at Manoa, John A. Burns School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 947-8573. At: Wailea Beach Hotel, Maui.
Oct. 21-25, 1984	Medical Group Management. Contact: Medical Group Management Association, 1355 South Colorado Boulevard, Suite 900, Denver, Colo. 80222. At: Sheraton Waikiki.
Oct. 24, 1984	Diagnosis and Treatment of Type II (NIDDM) Diabetes Mellitus, American Diabetes Association, Professional Education Program. Contact: Esther Chamberland, 510 South Beretania Street, Honolulu, Hawaii 96813, (808) 521-5677. At Ala Moana Americana Hotel, Honolulu
Oct. 25-28, 1984	Allergy, Immunology, and Infectious Diseases. Contact: Joe Harrison, M.D., Symposium Maui, Inc., P.O. Box 10185f, Lahaina, Hawaii 96761, (808) 661-8032. At: Maui.
Oct. 30-Nov. 15, 1984	Cross-cultural Medical Care: A Way to Improve Our Practices, Dr. Donald Char. Contact: University of Hawaii School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 947-8573. At: 17-day tour of China.
Oct. 31-Nov. 14, 1984	The Status of Medicine in China Today, Dr. K.S. Tom. Contact: Dee Chang, University of Hawaii School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 947-8573. At: 15-day tour of China.
Nov. 2-3, 1984	Seminar on Aging: New Hope for an Old Problem. Contact: Straub Clinic & Hospital, Rose Voulgaropoulos, 888 South King Street, Honolulu, Hawaii 96813, (808) 523-2311, ext. 8152. At: Honolulu Academy of Arts Theatre, Honolulu.
Nov. 5-14, 1984	The Impact of Eastern and Western Cultures on Infectious Diseases, Dr. Dexter Seto. Contact: Dee Chang, University of Hawaii School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 947-8573. At: 9 days in Hong Kong.
Nov. 9-11, 1984	Hawaii Medical Association 128th Annual Scientific Meeting, Infectious Diseases: Current Status and New Horizons. Contact: Jenny Asato, Hawaii Medical Association, 320 Ward Avenue, #200, Honolulu, Hawaii 96814, (808) 536-7702. At: Kauai Surf Hotel, Kauai.
Nov. 17-24, 1984	Medicine and Society in History. Contact: University of Washington School of Medicine, Division of CME, E303 Health Sciences Center, SC-50; Seattle, Wash. 98195, (206) 543-1050. At: Inter-Continental Maui, also Molokai lecture and tour on Nov. 23-24 (Kalaupapa).
Nov. 24-Dec. 1, 1984	Red Cells in the Sunset, Dr. James Linman. Contact: Dee Chang, University of Hawaii School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 947-8573. At: 7-day cruise around the Hawaiian Islands.
Nov. 27-29, 1984	Pacemaker Update, co-sponsored by the Cordis Corporation. Contact: Dr. Irwin Schatz, University of Hawaii at Manoa, John A. Burns School of Medicine, Department of Medicine, 1356 Lusitana Street, 7th Floor, Honolulu, Hawaii 96813, (808) 548-2810. At: Hyatt Regency Maui.
Dec. 5, 1984	Hypertension Symposium for Hawaii—1984. Contact: Stephen Wallach, M.D., 848 South Beretania Street, #315, Honolulu, Hawaii 96813, (808) 521-3851. At: Queen's Hospital, Mabel Smyth Auditorium, Honolulu.
Dec. 5-8, 1984	Fourth Annual Asian-Pacific Congress of Medical Marathoners in conjunction with the 12th Annual AMJA Symposium on the Athletic Heart: Physiological Adaptation to Environmental Stress. Contact: Huge Ames, P.O. Box 27332, Chinatown Station, Honolulu, Hawaii 96827. At: Sheraton Surfrider and Moana hotels.
Dec. 8-15, 1984	Cross-cultural Medical Care, Dr. Donald Char. Contact: Dee Chang, University of Hawaii School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 947-8573. At: 7-day cruise around the Hawaiian Islands.
Dec. 27-29, 1984	Allergy and Asthma. Contact: Joe Harrison, M.D., Symposium Maui, Inc., P.O. Box 10185, Lahaina, Maui 96761, (808) 661-8032. At: The Royal Lahaina, Maui.
Jan. 3-5, 1985	Allergy and Dermatology. Contact: Symposium Maui, Inc., Joe Harrison, M.D., P.O. Box 10185, Lahaina, Maui, 96761. At: The Royal Lahaina, Maui.
Jan. 10-12, 1985	Allergy and Immune Diseases in Children. Contact: Symposium Maui, Inc., Joe Harrison, M.D., P.O. Box 10185, Lahaina, Maui 96761, (808) 661-8032. At: The Royal Lahaina, Maui.
Jan. 17-19, 1985	ACOG-CME, ACOG, 600 Maryland Avenue, S.W., Washington, D.C., 20024, Harrison C. Visscher, M.D., Director of Education, (202) 638-5577. At: The Kauai Surf Hotel.



Ken: Our Perceptive U.S. Senator

No, this is not a political editorial, even though the presidential election is close upon us. We speak not of a politician but of a man of wisdom and experience, whose words on things medical deserve a wide audience.

U.S. Senator Daniel K. Inouye was introduced to a full house in B-103 of the University of Hawaii School of Medicine's "Pagoda" on an afternoon in April by Dean Jerry Michaels of the U.H. School of Public Health. The occasion was the 21st annual 1984 Ira Hiscock Lecture. The subject of the lecture can best be paraphrased as "what's with health care in the U.S.A.?"

As a perfect example of how our news media color our perspective, factual though the reporters try to be, the articles describing the event in the Advertiser and the Star-Bulletin the next day emphasized what the senator had to say about "socialized medicine." True, he did start off by stating that national health programs are in effect in nearly all countries, with the notable exceptions of South Africa and the U.S.A., and he did close his remarks by opining that a national health program was inevitable in our country (warning us in an aside that "doctors had better not oppose it as they did Medicare prior to 1965!") . . . but the main thrust of the senator's address expressed remarkable (for a politician) empathy for our profession and its many problems:

Problem—"Medicare covers only 18% of health care costs overall, and the elderly have to pay 56% of the charges out-of-pocket."

Problem—"13% of the population have no insurance coverage for medical expenses."

Problem—"90% of the federal health care budget goes to Medicare and Medicaid."

Problem—"In Hawaii, the charge for a hospital day has gone from $99 in 1972 to $600 in 1984, and it is the lowest in the U.S.A. (in California it is close to $1,000 per day)."

Problem—"The United States, by 1990, will probably be expending 12% of its GNP on health care, more than any other country in the world."

Problem—"$5 a day in-hospital and $4 per visit to the doctor's office goes toward paying for malpractice insurance, perforce."

Problem—"Doctors have to practice defensive medicine and order more tests as a consequence; take time away from caring for their patients in order to spend time in court. Many choose to retire early, therefore, thus depriving the public of their years of experience and acumen. The biggest burden for a doctor involved in a suit, even if he wins, is the emotional trauma to himself and the trauma to his reputation; and finally, it is almost impossible to modify tort-oriented laws because trial lawyers hold the reins."

Problem—"There may be too much restriction on what the well-trained, modern paramedics can do, with or without supervision."

Problem—"The consumer demands the very best and newest in care and technology, a private room with TV and air-conditioning, full service, etc. and, lastly

Problem—"medical and hospital insurance has opened up a Pandora's box of demand and of personal fiscal irresponsibility."

Does not the above indicate the speaker has a full and thorough understanding of what the medical profession has to face?

The senator went on to give the profession its due (no hint of this appeared in the reporters' articles):

- How a young physician, after 10 years of intense learning, on the average faces a start-up cost of $27,000;
- How malpractice insurance premiums, now almost mandatory everywhere, have sky-rocketed in cost and must be paid "up front" before the first few patients trickle in;
- How the physicians who cared for the "bubble boy" did not charge a cent for their long and loving care (this, as an example of the charity still being dispensed by many); the university hospital where the boy was kept, on the other hand, received a million-dollar grant towards his care;
- How consumers could very well prevent a lot of their self-inflicted illnesses and injuries, as reflected in statistical figures that show a per capita cost of $1,400 for curative treatment, as compared with 50 cents per capita in preventive care.

Our own Dan Inouye is indeed knowledgeable in matters of the public health! His prescription for a remedy for the throttling, stifling malpractice problem has long been the "no-fault" approach, spreading the burden of claims reimbursement onto a broad base of doctors, hospitals AND patients. He mentioned it but briefly in his address, but we hope he will continue to push for this in the Congress; he should receive public—and our—support for this concept.

Jerry Michaels' introduction was well put when he introduced Senator Daniel Ken Inouye by emphasizing his middle name: "Ken," which means "The Builder."

J.I. Frederick Reppun, M.D.

The Physician versus Society

The JAMA saw fit to expose in its pages the response of Andre Wynen, M.D., Secretary General of the World Medical Association, to His Holiness Pope John Paul II, whose address, given at the Vatican, to the delegates to the 35th World Medical Assembly in Venice in October 1983, was also reprinted in the same issue (2/24/84). We think the readers of the HMJ might need—and want—another go at Wynen's profound statement on "Medical Ethics" revealed in his response. Wynen elaborates on the theme initiated by the Pope. *(See next page).*

Wynen starts out by citing the social security systems for their menace: a) To the doctor-patient relationship, and b) to the dignity of man "—namely, his freedom of conscience and his freedom of choice, without which the trust between the patient and his physician becomes meaningless."

In this regard, Wynen defines medical ethics as having been founded by Hippocrates (500 years B.C., and preserved and refined ever since/Ed) on "respect for and protection of the human person—the individual." We assume that Wynen meant the individual patient, which brings to mind how important it is for all of us physicians to consider that medical ethics is our professional guideline for the benefit of our patients and NOT for the benefit of ourselves!

Wynen goes on to describe the conflicting forces affecting the societies of man in our times: The traditional role of the physician as being at the service of the individual, as opposed to the "socialist thesis, which thinks (the physician) should be at the service of the State . . ." Wynen labels the former as the "Christian thesis." We do not think that is a proper term; although that is indeed a Christian ethic, the principle of loving one's neighbor is common to many religions and societies. However, Wynen's great point is, as he says: ". . . the material and moral interests of the community (the State) are increasingly in serious competition with those of the sick."

Wynen explains that the non-sick people want more and more social security for themselves, including protection against becoming sick, injured, or disabled, witness the tendency for families to institutionalize their aging and invalid parents, for abortion and even euthanasia, "for social benefits in favor of the healthy—such as numerous allocations for unemployment, old

age pensions, holidays and so on" and now for "progressive rationing of the means ($$$) required to help the sick in their struggle against disease."

Doctors, therefore, by advocating protection of their patients, are being castigated as anti-social and are being forced into the position of having to care more for medical efficiency, economy of technology, and the reduction of the cost/benefit ratio, rather than to strive for quality medical care, disclaimers by the government to the contrary notwithstanding.

We physicians must remember that the ill—in mind as well as in body—need the tincture of time, and patience, in order to obtain reassurance and peace of mind; their concern with "efficiency" is minimal at that point. "Economy"—the dollar sign the physician cannot remove from his eye—can be reflected in the patient's heightened anxiety. This is NOT conducive to recovery, nor to a "good outcome." It is up to us physicians to be wary of and to resist these "social" pressures.

J.I. Frederick Reppun, M.D.

Dr. Wynen's remarks are printed herewith:

The World Medical Association and Medical Ethics

Reprinted from JAMA of Feb. 24, 1984—Vol. 251, No. 8, P. 1039.

YOUR HOLINESS,

The World Medical Association whom you have so graciously agreed to receive this day, represents among its membership over a million doctors from more than 40 countries around the world.

Ever since it was founded in 1948, our Association has been mainly concerned with problems of medical ethics, but we have also kept a close watch on the various social security systems as they developed in order to forestall all the menaces they have forced upon the doctor-patient relationship and also to safeguard what constitutes the dignity of man—namely, his freedom of conscience and his freedom of choice, without which the trust which must exist between the patient and his physician becomes meaningless.

Among the many fields covered by medicine, ethics has always been the most vulnerable. This is the main reason why medical ethics has always been regarded by doctors as demanding the closest attention and deserving above all, the greatest efforts to protect it.

Ever since the time of Hippocrates, this matter of ethics has been founded on respect for and protection of the human person—the individual. As medical science has developed there have been frequent calls to reconsider its ethical stance without, however, there being any grounds, to modify its basic philosophy. Yet today, more than ever before, medical ethics are threatened by events.

Two major but radically opposed trends now prevail: First, the Christian thesis, which is defended by the vast majority of members of the World Medical Association and which sees the physician as being at the service of the individual, the person, the human being, and second, the socialist thesis, which thinks he should be at the service of the State—that is, of the community, the material and moral interests of which increasingly are in serious competition with those of the sick.

The self-interest of the healthy is indeed to an ever greater extent orientating social policies in favor of greater advantages for those sectors of the social security system with which their interests are directly connected, and these are themselves in direct competition with those of the people who should qualify for sickness benefits or medical services.

If the physician's natural duty is to protect the sick, the way our social civilization has progressed forces him to defend his patient not only against illness, but also against the self-interest of those around him, by this I mean the growing number of families who wish even to be rid of their aging parents. (This protective role of the doctor makes it easier for his opponents to describe him as antisocial.)

Do we need to be reminded of the growing tendency to favor euthanasia? Without actually saying so much, most so-called cost-containment programs in respect to medical care actually amount to progressive rationing of the means required to help the sick in their struggle against disease. Such measures are, in fact, a form of euthanasia.

This is how in most of our countries we are in fact, powerless, witnessing increasing demands for social benefits in favor of the healthy—such as numerous allocations for unemployment, old age pension, holidays, and so on—but never for funds that could help doctors to give better care to their patients, who are the ones in real need.

So far from this being the case, medicine has actually been put in the dock, and nowadays expenditure on illness is considered unacceptable.

Health care, whether medical, pharmaceutical, hospital, or rehabilitation, is regarded as too costly by a community that is prone to use available resources for other ends, and which places the interest of the healthy far above that of the sick.

Advances in medical research also pose increasingly difficult questions to the profession. Experimentation into fertilization in vitro has already given rise to impassioned debates among those concerned, especially when the future of embryos, not intended for implantation in utero, so as to become fully responsible living human beings, is involved.

These are all matters providing ample grounds for thought in the years to come, and when it comes to the education of young physicians—another concern of the World Medical Association—is it not imperative first to define the medicine which they will have to practice at the end of this century? We shall have to map out a future which is, at the least, most uncertain if not clearly unpredictable.

The science of medicine has always proved the most effective remedy of all against the cruelty of natural selection, so it is justified in claiming a far from negligible responsibility in the present demographic explosion of the world, which itself is closely connected with the world economic crisis, against which the proposed remedies are of little avail, if not absolutely useless.

The struggle against acquired illness, whether acute or chronic, has become extremely effective. That organized against hereditary diseases undoubtedly adopts a very basic approach to the problem and so does our understanding of the etiology and development of certain malignant tumors.

So we may venture to predict that in the near future medical ethics will be the subject of deep thought. We doctors throughout the world, hope and pray with all our hearts that respect for and defense of the "person" of the human being will remain the most important objective of the medical philosopher and moralist.

The World Medical Association is resolved to set every means at the disposal of this well-disposed doctor and all its energy at the service of this cause.

We members of the World Medical Association profoundly appreciate the invitation with which we have been honored, and thank you, Holy Father, for granting us this audience: in the history of the World Medical Association it will always remain an event of particular significance and importance, and every one of we physicians throughout the world will always remember the privilege you have granted us.

Andre Wynen, M.D.
Secretary General of the
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Ethical and Practical Public Relations for the Physician

Jerri Liberman, B.A.,* Honolulu

• *Several years ago, a friend of mine decided to go straight from medical school graduation into private practice. After weeks of shopping for office space and equipment, and ordering everything from appointment books to waste baskets, it was an exhausted young doctor who told me, "You know, medicine can really be a business!"*

As such, medicine can benefit from a properly executed public relations program. In a recent issue of PR News it was stated that public relations has "achieved and established stability, strength, and recognition as a necessary function" There is no reason for the medical profession to shy away from it. Certainly, press agentry, promotional gimmicks, and self-aggrandizement have no place within our medical community, but smoothing patient relations, imparting information, and getting credit where due are all valid public relations avenues for doctors.

PR for doctors can be done on a small or large scale. Doctors practice public relations, in the form of patient relations, as surely as they practice medicine. For a cost-free PR program, analyze your office, staff, and manner with patients. Does your office look like a cheerful, professional work space, or is it run down and depressing? There is a balance between the kind of decor that makes you look like a "rich doctor," and the kind that makes patients wonder why they ever entered the room. Do you provide well-written brochures and other patient information explaining your policies? What other reading material or visuals do you offer?

Are your staff members professional, yet warm? How closely do you adhere to your schedule? Do you apologize when a patient has been kept waiting too long, and do you give that patient some extra time and TLC? Do you take a moment to think about who your next patient is in a personal sense? Recall the horror story of the gynecologist/obstetrician who breezed into the examining room and cheerfully asked the newly delivered woman, "How's the baby doing?" The crestfallen woman replied, "Doctor, don't you remember, you delivered my baby still-born?" Take a few moments to review your in-house public relations. It costs nothing, and may earn you much, and in ways other than financial.

Doctors deciding to embark on a wider range of public relations services may choose a number of options: volunteer to give service, or make speeches; become involved in your professional and community organizations. One Honolulu orthodontist has been writing a column for the Sun Press, as well as a cheerful, most informative newsletter for his patients and for members of the medical profession. In the newsletter, he credits individual doctors and dentists for their referrals. Several doctors have written books for the general public. These have all been handled with the dignity befitting the medical profession.

There have been "flashier" publicity attempts, such as turning a medical office into a disco, or "the doctor's diet to end all diets" best seller. These may do little for a physician's image or credibility.

Though one cannot very well phone the local health writers and claim to have made an enormous medical breakthrough without sounding a bit immodest, one can contact them with news of interesting research or a real medical breakthrough. You may decide to let a PR professional "tout" you if you are the one responsible for the discovery, or if you have donated services to a worthy cause. Be honest with yourself about your accomplishments and activities—do not be too modest about acknowledging what you have achieved—and you will be able truthfully to answer the question: "Is this accomplishment—event—activity—of general news interest?"

Some information is better suited to professional journals, and public relations actually does begin within your peer group. Other items may be of international note. It's up to you and your PR counselors to determine these issues.

Sometimes, a medical situation calls for full-scale planning and advertising, and PR expertise. Several Oahu hospitals and clinics have designed PR programs which require "media blitzes."

A number of professions which have backed off from advertising and public relations traditionally are now reevaluating their approach. I would encourage members of the medical community in Hawaii to do the same!

* Ms. Liberman is a freelance writer and PR consultant who has practiced in Hawaii for 14 years. She recently became public relations director of Advertising Works, Inc., Honolulu.

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Sheraton-Waikiki Hotel, Honolulu, Hawaii, April 1-6, 1984

Care of the Elderly and Chronically Ill

George H. Mills, M.D.,* Honolulu

• *I review some of the issues (of care of the elderly and chronically ill) as no stranger, having been medical director of Maunalani Hospital—a long-term care facility here in Honolulu—for the past 22 years.*

On an occasion such as this, especially since I have been given full control of the podium for a few minutes, and since there are a large number attending this convocation who are malihinis *(our Hawaiian word for "newcomer"), I will exercise a speaker's prerogative and commence my remarks with a little orientation to Hawaii*—na mea o Hawaii.

On the evening of January 18, 1778, Captain James Cook, an English sea captain, arrived at the mouth of the Waimea river on Kauai. His ships, the Resolution and the Discovery, were on a mission for the Royal Scientific Society of London. Like so many navigators of that time, they were looking for the northern passage to the east through to the Atlantic ocean.

Cook's discovery of the Hawaiian Islands ended 500 years of isolation of these Islands from the rest of the world.

The ship's doctor estimated there were 300,000 native Hawaiian inhabitants at that time.

Their culture was highly organized with stratified layers of responsibility—king, high chief, lesser chiefs and the common man or the *"makaainana."*

The Islands—*moku*—were divided into pie-shaped parcels of land, *ahupua'as,* stretching from the mountain ridge to the farthest outside reef.

This land division was cultivated—and the ocean was fished—to support the "extended family," the *'ohana.* These were the inhabitants of the *ahupua'a,* who were to a large extent, relatives by blood. The elder male—*haku*—was the pivot and master director of the *'ohana.*

The elderly group in this culture was known as *kupuna,* ". . . the stock from which the *'ohana* springs as off-shoots."[1]

These *kupuna* had a serious and important role in the *'ohana* for they were the learned historians: *kahuna* (priests), advisers to the chief, arbiters, peace keepers, etc.

After their exposure to the rest of the world, the Hawaiians nearly became extinct—being virtually wiped out by Western infectious diseases—small pox, measles, mumps, tuberculosis, and various venereal diseases. Their many years in isolation from the rest of the world little prepared them for immunity to the diseases of the outsider.

The census of 1896 revealed that only 8,500 Hawaiians remained of the original population estimate of 300,000—this only some 100 years after discovery.

In 1898 Hawaii had become a territory of the United States—western law as well as western medicine was becoming firmly established.

Today, we are a state of 1 million people. We have natural beauty, a warm climate, and friendly people; we are not different from the other 49 states.

Progressive patient care is not a new concept in the business of health care delivery. At least 50 years ago in this country in isolated spots, a limited effort was generated to ensure that the right patient would utilize the appropriate health care resource in the correct environment at the right time. As simple and sensible as this concept seems, progress in developing it has been pitifully slow.

Following World War II, many countries throughout the world experienced an economic high. Government monies to support "free" health delivery systems were being appropriated by legislative bodies at all three levels of government—federal, state, and municipal. The concept of government-controlled national health insurance schemes blossomed in several countries. Since it was politically expedient, the United States was not an exception to this trend, and, after several years of political maneuvering and hollow promises, Medicare and then Medicaid were established in the mid-1960s.

In about 2 decades since their establishment, both programs have exceeded the originally anticipated costs by many billions of dollars, necessitating a decrease in benefits and an increase in the recipient's out-of-pocket payment. Political promises of "pie-in-the-sky" medical care rarely maintain the initial commitment and never come cheap.

Since there is a continuing aura of misstatement and confusion hovering over the issue of "Care of the Aged and the Chronically Ill," I thought it would be interesting to review how some of the other countries in the world have been handling their health care problems, especially those problems pertinent to aging.

In taking a quick look at 20 different countries, the following is a summary of what has emerged.

A quote taken from an article published by two authors in England states the problem:

> "The recognition that the changing age structure of society, with an increasing number of old and dependent people, will pose one of the major problems confronting social policy for the next twenty years has come lately to the public conscious."[2]

All developing nations are experiencing an explosion in the numbers of their aged populations. Many anticipate an increase of 5-6% of those more than 65 years of age in the next 2 or 3 decades.

The two most popular explanations for this marked increase are: decreased fertility and increased life expectancy. A pertinent quote by a Swedish author reads:

> "Swedish population is characterized by a growing proportion of old age pensioners and a diminished proportion of children in the next 50 years.[3]

Currently an urgent and major concern of many countries is the planning and financing of realistic programs to accommodate the needs of the large number of citizens who will be 60 years of age and older by the year 2000.

This concern results from the exceptionally large number of births which occurred during the "baby boom" of the

* Medical director, Maunalani Hospital

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1940s. These individuals will be in their 60s commencing early in the 21st century.

Another concern which relates to increased life expectancy is the number of aged—70, 80, and 90 years of age—that will increase considerably.

Today, the Japanese ethnic group has the highest life expectancy in the world; it is 74 years for males and 80 for females.[24] Today in the United States, the life expectancy for males is 70 years and for females 78 years.

Problems

What problems are being precipitated by the explosion of the aged population?

1) Chronicity and frailty will increase, and even now these are rapidly developing into a major health and psychosocial problem. The demand for medical care will increase, and because the elderly will experience a longer life span, most of them will experience chronic illnesses involving more than one system.
2) Many acute centers lack facilities and trained personnel to deal expeditiously with the problems of the aged. The elderly and chronically ill are frequently considered "bothersome" and "uninteresting" by the facility staff. I quote from English authors Rogers and Muirgray:
"... services are inadequate and the problems that ensue are on us."[2]

 Author J.G. Evans registers her concern:
"In the western world, services for the social and medical care of the elderly people have been dominated in the past 2 decades by the aim of reducing institutional care to a minimum ...
"This preoccupation has had an unfortunate effect of generating the idea that hospital and community services are alternatives rather than complimentary ways of providing care for the elderly."[4]
3) Except in large metropolitan areas, facilities lack optimum resources for diagnoses—assessment and rehabilitation of the aged. This prompts misutilization of resources and institutionalization of many who could be cared for at home.
4) Gaps in service occur due to the lack of financial and human resources and inadequate staffing of assessment resources.
5) Frequently those most in need of inpatient care are not the ones who receive it. In-patient care of the aged is frequently challenged. The challenge will accelerate in the very near future for Medicare patients—especially with DRGs, Prospective Payment System (PPS), and money-oriented PRO.
6) Community-based support for the aged is often lacking. Too often home help and other domiciliary care is determined by administrative convenience of the providers rather than the needs of the recipients. In some areas this problem is worsening. Families are much more mobile. Young people are accelerating their migration from the country to the big cities and leaving their traditional responsibility for the care of the aged. Though daughters continue to be looked upon to provide the major part of home care, women are pursuing new careers through better formal education, and subsequently leaving home to seek gainful occupation. This shift has markedly decreased alternatives for care of the aged by the family.
7) "Doctors and social workers have been too acquiescent in specifying the needs of elderly people in terms of service that is convenient to provide rather than the functional objectives that are necessary to obtain."[7]
8) Underfunding in some countries is decreasing the number of jobs. In England, about 8,000 workers in health care facilities are threatened. In the United States, lay-offs in health care facilities are increasing at an accelerated rate. This is how the England Association of Nursing reacts to the cut in personnel:
"Unless this madness can be stopped, people are going to die and the nation's health care system will disintegrate within weeks."[5]
9) In many countries, government is translating care into cash. Already in this country we are receiving reports where diagnostic related groups and prospective payment systems are being phased in for Medicare, that some illnesses are being complicated, and some deaths have occurred as a result of rigid fiscal restraints which precipitate heavy pressure for early discharge.

In France, Jacques Attali, special adviser to the president, presented the French government's view which reflects the desperate and cold-blooded approach by which some countries are attempting to solve the problems precipitated by the processes of aging and chronic illness. I quote from Rentchnick's article, "French Medicine and Automatic Entitlements:"

"Once man reaches 60-65 years of age, he begins to outlive his productivity and to cost the community a lot of money. So I believe that it is part of the very logic of an industrial society that the aim will no longer be to improve life as such but to ensure that, within a given life span, man lives as well as possible and in such a way that the cost to the community in health expense is minimal. What we have then is a new criterion for life expectancy: that of the value of the health system not in the prolonging of life, but in the number of years an individual is able to live free of sickness without requiring hospitalization. Indeed as far as society is concerned, it is preferable for the human machine to quite literally stop dead than to gradually deteriorate."[6]

I am told that the governments in Switzerland, China, and Portugal suggest a course which supports a similar philosophy. Governor Lamm of Colorado is accused of a similar statement. Attali added:

"This becomes perfectly clear when we remember that two-thirds of all health costs are devoted to the last months of life. The extension of life expectancy will remain a desirable aim in the popular imagination for two reasons. First, and this has to do with people in power, our increasing totalitarian and stipulative societies tend to be governed by old men. Secondly, a capitalist society can make old age economically profitable by simply making the old pay their way. At present this market exists, but for the time being is not economically viable."[6]

Some countries are already settling the issue by refusing to provide their populace with life-support facilities. They have established age requirements for pacemakers, restricted use of diagnostic technology, limited the number of prescriptions and dispense cheap, poor-quality pharmaceuticals. Additional restrictions in some countries regulate who should be dialyzed, and who will qualify for organ-transplantation.

There is serious international concern regarding the ethical and moral issues that this trend precipitates.

A physician sitting with the Hawaii Medical Association's medical, moral, ethical, legal committee, when discussing this trend, facetiously questioned, "How soon will governments begin establishing 'God Squads?' "

Services

Services for the aged include social services and health services. For quality care, especially for the elderly, these two must be inseparable.

These types of services throughout the world have their similarities—yet there are wide variations from country to country in the availability, accessibility, and quality of the service.

Political ideology, concern for the quality of life and the cost of care are significant determinants of what services will be available.

All countries reviewed strive to keep the elderly person in an environment where he or she can pursue a life of safe and secure independent living. The ideal procedure for all elderly admitted to an acute care hospital should include early admission, rapid diagnosis, assessment, and early development of a management

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plan which will include directives for social services and medical services. The goal is early discharge back to the community. At this level, the plan could recommend institutional care or return home to independent living.

I have learned institutional care covers a wide spectrum of resources—nursing homes, geriatric district hospitals, welfare homes, sheltered nursing homes, private nursing homes, care homes, etc.

The elderly are placed in these institutions for many reasons, a few being:

1) The family has provided an excessive amount of care and is at the "breaking" point (at the end of their tether).
2) At home, the patient is a financial burden to the family. In an institution, the financial burden is shared with the government, or some other third party-payor.
3) In some countries, professionals are inadequately reimbursed for the home visits, resulting in poor continuity of care and exacerbation of an illness which ultimately requires institutionalization.
4) Home care is usually maintenance care and is unrewarding and unexciting for the attending physician.

Criticisms of long-term institutional care include:

1) The care provided is usually custodial rather than rehabilitative.
2) It can decrease the encouragement for a realistic goal of independent living and frequently the base of community support disintegrates with prolonged institutional care. Every effort must be made to properly integrate and coordinate social service resources and medical services for the elderly if the goal of independent living is to be achieved.

As I approach the end of this presentation, I believe it would be appropriate to make some suggestions for goals and policy development for the discipline of long-term care.

A quote from a monograph written by two American authors, Kane and Kane, might serve as an introduction:

". . . perhaps old age is a land of its own, with a language that will never be fully understood by the younger people who are most often responsible for formulating the policies that affect the elderly."[7]

To enhance and maintain the quality of life for the elderly, we must all work for their functional independence and spare them from the dependency on care. Their personal integrity must always be respected and every effort must be made to allow them to live and function in a normal setting.

In planning for the elderly, cooperation is essential and must be based on clear understanding of the shared responsibility of government, voluntary agencies, and the younger people who may be determining policy.

At the outset we must attempt to correct the "grey zone" between acute care and long-term facilities. They form the matrix for the continuum of care for the ill and infirm elderly. Neither can function in a vacuum. Neither can assume a cavalier stance if they anticipate providing quality care.

In this country, a smooth-working relationship between an acute care resource and long-term care has become much more important as we walk together through the maze constructed by PROs, DGRs, and PPS.

Careful planning must be instituted to develop standards for nursing homes and resources clearly identified that will have as their responsibility to see that the standards are supported.

With the large anticipated increase in the elderly population, resources should be identified which will study and project the housing needs of the elderly. It is known that for many years here on the Island of Oahu, three oriental ethnic groups—Korean, Chinese, and Japanese—have developed and managed sheltered housing for their elderly.

With a unique degree of foresight, the Hawaiian ali'i, King Lunalilo, provided for his Hawaiian elderly by establishing Lunalilo Home at his death in 1874. The home provides quality sheltered housing for those of Hawaiian blood who are infirm elderly but ambulatory. Income from Lunalilo's legacy continues to provide monies for the operation of the home.

Specialized care for the elderly should be centrally located and in an acute care facility. These facilities should be responsible for:

1) Developing sophisticated in-hospital long-term care diagnostic and rehabilitation assessment resources. In a few of the countries reviewed, this type of service is provided but in a very fragmented fashion. In this country, because Medicare no longer mandates three days in an acute care facility, long-term care facilities will be exposed to increasing preadmission assessment fragmentation and a new cost for care.
2) Assessing the pathology data, the personality, attitude, family constellation, and the economic status of the elderly. It is ". . . a drastic measure to move a patient from an environment at home to an institution . . . it is tough for the patient but also tough for society because of their heavy involvement."
3) Strengthening discharge planning.
4) Developing outreach resources for continued care and also becoming more community-oriented.

Community resources should be established to:

Provide continuing professional surveillance which will allow periodic review and ongoing assessment of nursing homes and residential homes to ensure progress is being made, and that care is of high quality and not episodic.

Provide home health visits for the elderly for early detection since so many of the elderly, because of their illnesses, cannot evaluate their own health status adequately.

Structure an accessible community consortium that allows for minimal fragmentation of service and sharing of services that would include:

- Day care services
- Hospice resources
- Respite programs to periodically relieve families of their responsibility for home care

Education programs should be developed within the community to:

- Retrain elderly patients for activities of daily living;
- Instill good habits for health maintenance of the elderly;
- Encourage health professionals to develop and improve on geriatric care skills, to produce well-trained, qualified workers who can provide quality care.

With increased costs and progressive restricting by government for payment of services, there is a temptation by providers of long-term care to hire less qualified workers at a cheaper price, in order to keep the cost of operations at a minimum and to prevent the facility from going into the red and eventually closing.

Cost and Economics

"Free services are always those that cost the most since they foster lack of responsibility and rise to waste and deficit."

To enhance the care of the elderly:

1) There should be established an ongoing quality- and cost-control program. In many programs, public and private, costs have superseded quality care as the most important consideration in the delivery of medical care for the elderly.
2) All elderly must have adequate health and accident insurance that includes catastrophic coverage, is non-cancelable and is established before retirement.
3) Provision should be made for financial support for families who maintain elderly at home. This could include interest-free loans for home alterations.
4) There must be equitable reimbursement for health professionals who provide medical care to the elderly at home.
5) Rural communities must be considered unique. The costs may be higher, staff may be more difficult to attain, equipment and facilities may be limited.

Distance and geography should not al-

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low rural elderly to receive medical care of a lesser quality than that received by those close to urban medical centers.

There should not be two levels of care. There should not be unequal access to publicly funded benefits.

It has been most interesting to prepare this presentation. It is very clear when one takes a good look down the road, to see the impact the elderly will have on medical care during the remaining years of this century and the first four or five decades of the 21st century. It is an awesome realization.

The 20 countries reviewed are not prepared, including the United States.

Planning is poor and limited. Health care providers and governments are fighting the problem everywhere. None are winning. The elderly will lose if it continues. Irrational decisions regarding payment schemes and quality care are being proposed by poorly informed and therefore poorly qualified bureaucrats and politicians in major countries. The pressing problems of long-term care remain relegated to a low position in the health care pecking order.

It is imperative that members of the American College of Health Care Administrators dig in harder and continue to educate the public, continue to interface actively with politicians and bureaucrats and continue to be vigilant regarding costs, quality, availability, and accessibility of long-term care especially for the elderly.

You are the knowledgeable group.

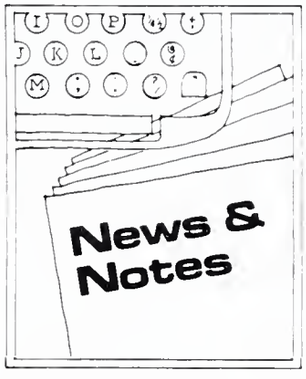
You are the responsible group.

The destiny of long-term care rests heavily with you.

Aloha.

REFERENCES

1. Handy ESC, Pukui MK, Handy EG: The Hawaiian family system in Ka'u Hawaii. The Polynesian Society, Inc., Wellington, N.Z., 1958.
2. Rogers JS; Muirgray JA: Long-stay care for elderly people: Its continuing evolution. Oxfordshire Area Health Authority, *Br. Med. J.* 1982 Sept; 285:207-209.
3. Bergman S: Meeting the challenge of an aging population in Sweden. *World Hosp.* 1983 April; 19(1&2):32-35.
4. Evans JG: Care of the elderly in the United Kingdom. *World Hosp.* 1983 April; 19(1&2):25-28.
5. Lejeune A: Fiscal sponginess abounds in the British medical system. *Private Practice.* 1983 Dec; 15(12):17-20.
6. Rentchnick P: French medicine: No automatic entitlements. *Private Practice.* 1983 Oct; 15(10):25-28.
7. Kane RL; Kane RA: Long-term care in six countries. *Forgarty International Center Proceedings* No. 33, 1976.
8. Fitchew J: Geriatrics: the future of long-term care. *Nursing Mirror.* 1983 Jan; 156(4):10.
9. Pickering E: Caring for the aged in Australia. *World Hospitals.* 1983 April; 19(1&2):22-24.
10. Gingras G; Sherman ED: Care of the elderly in Canada. *World Hosp.* 1983 April; 19(1&2):19-22.
11. Weatherhill JL; Heidemann E: Long-term care alternatives in northern communities. *J. Can. Hosp. Assoc.* 1981 March.
12. Kraus AS; Spasoff RA; Beattie EJ; Rodenburg M: Improving the long-term care of the elderly in the commununity. *Can. Med. Assoc. J.* 1978 March; 118(6):614.
13. Goodman WE: Canadian medicine. *Family Practice.* 1983 Oct; 30-34.
14. Dalgaard OZ: Care of the elderly in Denmark. *Danish Med. Bul.* 1982 March; 29(3):131-135.
15. Dart PB: Home care for the elderly sick. *Lancet.* 1976 Dec; 2(8000):1407-1408.
16. Foxley-Norris C: Voluntary aspects of long-term care of the young chronic sick. *J.R. Soc. Med.* 1978 Jan; 71(6):451-453.
17. Hall D; Byetheway B: The blocked bed: definition of a problem. *Soc. Sci. Med.* 1982; 16(22):1985-1991.
18. Currie CT: Geriatric medicine. *Br. Med. J.* 1982 July; 285(6336):183-184.
19. Savy BC: French medicine a welfare state. *Private Practice* 1983 Dec; 15(12):40-45.
20. Notes from Conference on Aging—State of Hawaii. 1983 Nov.
21. Ghei PN: Health care in Indian cities. *World Hosp.* 1983 April; 19(12):41-45.
22. Belton PA: Long-term care for the dependent elderly. *Irish Med. Journ.* 1983 Jan; 76(1):14-15.
23. Dean M: Israel medicine—cruel labor disputes. *Private Practice.* 1983 Oct; 15(10):1-3.
24. Langone J; Tharp D: Japanese medicine—high-tech low performance. *Med. Month.* 1983 Dec; 20-27.
25. Von Zonnevelde RJ: Care of the elderly in the Netherlands. *World Hosp.* 1983 April; 19(1&2):29-32.
26. Campbell AJ: Care of the elderly in New Zealand. *World Hosp.* 1983 April; 19(1&2):13-15.
27. Souza FC: Differentiated care Portuguese medicine. *Private Practice.* 1983 Oct; 15(10):19-22.
28. Mas JD: Spanish medicine—promoting cooperativism. *Private Practice.* 1983 Oct.; 15(10):23-24.
29. Conflicts in long-term care of aged: nutritional problems and the patient-care worker relationship. *Br. Med. J.* 1980 Feb; 280(6211):377-378.
30. Truffer E: Swiss medicine—the veterinary ethic. *Private Practice.* 1983 Oct; 15(10):35-36.
31. Zapolo A: Chracteristics of nursing home residents and social contracts and activities—1973-1974. Nat'l. Nursing Home Survey U.S. DHEW. 1973 Aug.-1974 April. pp.1.
32. Evashwick CJ; Hickey KF: Care of elderly in the USA. *World Hosp.* 1983 April; 19(1&2):16-18.
33. Concel JA: Long-term care major role in the twenty-first century. *World Hosp.* 1980 April; 54(8):49.
34. Somers AR: The geriatric imperative hospitals. 1983 May; 57(9):77-81.
35. Kane RL; Kane RA: A guide through the maze of long-term care. *Western Journ. Med.* 1981 Dec; 135(6):503-510.
36. Estes CL; Lee PR: Policy shifts and their impact on health care for elderly persons. *Western Journ. Med.* 1981 Dec; 135(6):511-517.
37. Primich FJ: American medicine—thanks for the memories. *Private Practice.* 983 Oct; 15(10):17-18.
38. Schwartz H: Can Americans afford summa cum laude care? *Private Practice.* 1983 Dec; 15(10):21-23.
39. Comparison of health expenditures in France and the United States 1950-1978. U.S. Dept. HHS, Nat'l. Ctr. Hlth. Statistics. Series 3, No. 21.



Henry N. Yokoyama, M.D.

Hail, Harry!

In a recent issue of "AMA News," we found in "People" the following item:

"Harry L. Arnold Jr., M.D., Honolulu dermatologist in practice since 1939, has been awarded the Dermatology Foundation's Practitioner of the Year award for 1983. Dr. Arnold, who served as chief of the Straub Clinic (sic) in Honolulu from 1939 to 1969 when he was named to the emeritus staff, is a past president of the Hawaii Medical Association and a past delegate to the AMA, the American Dermatological Association, and the American College of Physicians.

More on Symposium on Stress . . .

Recognition of Stress
vs. Depression vs. Anxiety

Notes from the talk on stress given by Beverley T. Mead, M.D., May 20, 1984, at the annual Lederle Symposium in Honolulu: (Dr. Mead is associate dean for academic affairs and professor of psychiatry at Creighton University School of Medicine in Nebraska.)

STRESS—OK to talk about it . . .
S is for smile
T is for talk
R is for relaxing
E is for exercise
S is for sense
S is for serene

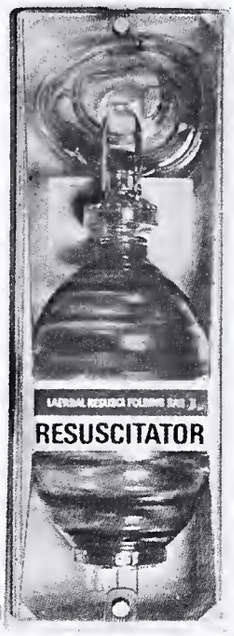
"It's all up here" (pointing to his head) . . . the computer . . . Input . . . Through . . . Output . . . Once we program the computer . . . it works automatically . . . e.g. I must have been programmed to talk . . . I am programmed to do (i.e. talk) without thinking . . . The same goes for writing . . . We write without thinking how we do it . . . We have become creatures of habit . . . victims of habit . . . But we can correct the computer program . . . Our personalities are what we have programmed into the computer and we can modify it . . . This computer of ours is a blessing as well as a curse . . . We have to modify it like my golf swing . . .

Problems of the Professional Person:

As professionals, you are brighter, more striving, more compulsive . . . and highly regarded persons . . . You are identified as responsible people . . .

By setting your standards high, you have a greater chance of disappointment . . . e.g. the first-year med student: I tell them that half of you will be at the bottom half of the class because someone has to be at the bottom half . . . I appreciated the junior med student who

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approached me one day and said, "I'm in that half of the class that allows the upper half to exist."

You are all Type A personalities: i.e. overanxious and compulsive in your approach to life . . . you are the workaholic . . .

You tend to feel guilty: you focus on your shortcomings . . . Focusing on shortcomings doesn't help . . . You are too critical and it doesn't help . . . Too many of us have lost our happy-go-luckiness . . . You must retain that attribute of warmth, humor, relaxation, even in pretty serious situations . . . But arrogance has no place in your professional life . . .

You are more prone to depression: Statistically there are more physician suicides . . . psychiatrists are on top . . . Sociopaths do not blame themselves . . . they blame others . . . You feel superresponsibility . . . Remember stress is not always avoidable . . .

Sometimes we get arrogant and become unwanted . . . If we wish to be human, we must accept human frailties . . . Alcohol is no escape . . . Drugs are not solution . . .

We tend to repress our need to be loved . . .

We are more inclined to be compulsive . . . to be perfectionists . . .

Those very qualities which we think desirable may be overemphasized and become the controller of you . . . You will suffer as a result . . .

We sometimes don't serve too well as parents . . . We used to say as lovers . . . But Masters and Johnson have changed all that . . . Time magazine says the sexual revolution is over . . . Children complain of three things: a. Problem of time: the family becomes a "slipping priority" b. Lofty mountain: We are placed on an unrealistic pedestal.

We must maintain warm and human relationships. c. Too much of a perfectionist: If our children get Cs, we insist they make Bs. And when they come home with Bs, we don't praise but scold them for not making As . . . Learn to praise your children.

We don't know how to play . . . Play helps retain our humanness . . .

We need to love ourselves . . .

Change is possible: People can change . . . If you're a jerk, you should recognize that you're a jerk and try to change . . .

Reminds me of the 93-year-old couple who went to their lawyer's office to get divorced . . . The lawyer asked, "How long have you been married?" "About 71 years . . ." "She is a lousy cook, a lousy lover, and snores." She complained, "He's never affectionate, he's a fat slob and besides he's incontinent . . ." Lawyer: "If you were so unhappy together, why did you wait til now . . ." "Well, we thought we would wait until all the children died."

How to cope with stress? If something bugs you, you can do one of 3 things: 1. Change "it." 2. Get away from "it." 3. Put up with "it" the best way you can.

Basic ways to improve coping ability:

a. Learn to be considerately assertive. Too many of us are rather timid souls . . . Afraid to offend someone . . . You can do it in a friendly way: e.g. that popular lady in the ad, 'Where's the beef?' We admire her . . . Many of us need that . . . Don't be a pushed-around kind of person . . .

b. Put things in the right perspective: Most of us make a mountain out of a mole hill . . . Bob Elliot (a professor of psychiatry) was quoted in Time magazine . . . Bob has two rules: "Don't sweat the small stuff" . . . and . . . "It's all small stuff" . . .

c. Don't let defeat defeat you: Learn to roll with the punches . . . I learned that I can be laughed at and that I could still survive . . . Things may not go your way, but you need not be overwhelmed by them . . . The person who has to save face cannot cope with situations . . . In the movie, "Urban Cowboy," the uncle says, "I thank God for my big neck . . . Makes it easier to swallow pride."

The noble act of saving face
May some day save the human race
And bring to some eternal unrest
Which lesser minds will call disgrace.

a. Assertiveness
b. Put things in their right perspective
c. Don't let defeat defeat itself

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d. Have a sense of humor

re: Sense of humor: Develop the ability to laugh at your self . . . Alda (in "M.A.S.H.") says "People who are laughing are usually not belting each other . . ." Too many people have inappropriate emotions . . . Sometimes emotions lead us to do destructive things . . . But other times emotions lead us to do constructive things . . . Anger is labeled as "bad or destructive" or "undesirable" . . . But anger also leads us to do most of the good things in life . . .

e. Don't construe emotions as being bad . . . Emotion is normal and a happy part of our nature . . .

f. Convert emotion to something else: laugh at an individual who is disagreeable (but not in his face). Psychiatrist Bob Elliot advises when an obnoxious person makes one distressed, say to yourself, "Isn't it too bad about him? He has a brain tumor." "Poor guy's got a brain tumor" . . .

g. Be concerned, but worry doesn't help: With concern, you can do something about it . . . With worry, i.e. constantly turning something over in our mind . . . doesn't help you . . .

h. Don't be too quick to run away from stress . . . If something has to be dealt with, don't postpone it or run away . . .

i. Learn to structure the stress: i.e. decide how to deal with the stressful situation . . .

j. Don't accept what you do as being natural: "We can change . . . it may take time and energy. I once decided to take up golf and after practicing I could at least hit the ball with a slice . . . I finally went to a golf pro who said, "I've got to stop you from doing everything you're doing" . . . When he showed me the proper swing, I said, "This is the most unnatural thing" . . . But what is unnatural can become natural . . . With practice my unnatural swing became more natural . . ."

If Grocery Stores Were Run Like Hospitals

Our thanks to South Community Hospital, Oklahoma City, Oklahoma, for making this available for reprinting:

For the past dozen years, radio-TV columnist Paul Harvey has demonstrated his friendship for hospitals, and has tried to provide insights into the value of our health care system. Recently Harvey delivered a column which would do well in your house organ, on your bulletin boards, or in talks your people may make to local groups. It went like this:

"There is a way to make grocery store prices much higher than they are. As is, food is one of the consumer's best bargains. The cost-of-living would be much higher than it is except for comparatively reasonable food prices.

"But, there is a way to skyrocket those grocery store prices if you want to. If



Left to right: *Audi* 5000S *Wagon*, *Porsche* 944, *Porsche* 911 *Carrera Targa*, *Porsche* 911 *Carrera Cabriolet*, *Audi* 4000S, *Porsche* 911 *Carrera Coupe*, *Porsche* 928S, *Audi* 5000S.

you want to multiply the prices of everything you buy at the grocery store, here's how:

"Subject your grocer to the same regulations under which hospitals (and doctors' offices! Ed.) are required to operate. That means:

"The grocer would have to keep a record of the total number of customers served, broken down by employer.

"He would have to record the precise number of minutes each customer was in the store.

"The record must show which customers purchased only meat and nothing else, which customers purchased only bread and nothing else, which customers bought both bread and meat.

"Separately the grocer's report must state which customers bought meat and milk. Also the number of customers who came in for one item and purchased more than one.

"Further, the grocery store is required to give away $50,000 worth of groceries each year and a sign must be posted in the store in three languages telling customers that the store is required to do this. Records must be maintained on all customers and all groceries given away under this plan.

"Further, for one half of the customers, the store is not allowed to set prices. Government will determine those prices and if those prices are arbitrarily held down to 'no more than last year's prices' then the store owner must pay his higher expenses by charging higher prices to the other half of his customers.

"But for that half, the store cannot collect cash from the customer, but must send a bill to the customer's employer.

"Further, the store manager is responsible for planning each customer's meals. If he errs in judging what's best, the customer may sue him.

"Also, the store must keep careful records of each can of peas sold—by brand name, size, customer age and employer of customer.

"Similar reports are required on each product sold.

"The store must certify in writing that each customer needs groceries before permitting him to enter the store. The store must have a committee to establish a 'shopping time limit' for each customer. Any customer permitted to shop longer than the pre-established time may not be required to pay for his or her groceries.

"The store must have written approval of government authorities before adding or deleting any product or brand.

"The store manager must have a master's degree in marketing.

"There are many more regulations to which hospitals are subject, but this is enough to help you understand why the costs of medical care have gone up faster and higher than the price of groceries."

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". . . the 5000S Wagon clearly *points the way to the future . . .*"

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The Fiji School of Medicine—
A brief history

Alan H. Penington, O.B.E., M.D. (Melbourne), F.R.A.C.P., Suva

• *In 1872, after considerable negotiation, the archipelago of Fiji, comprising some 300 islands of which about 100 were permanently inhabited, was ceded to Great Britain by Ratu Seru Cakobau, the "paramount chief" and some 13 of his subordinate chiefs. Prior to this, Fiji had been riven by inter-tribal warfare and almost constant strife with Ma'afu, a Tongan chief who rivaled Cakobau to rule the islands. There were at that time a few medical missionaries stationed in Fiji by different churches, but the major part of the medical care of the local population was in the hands of local healers and no organized medical service was available to the indigenous population. A small hospital had been built in Levuka, at that time the capital of Fiji on the island of Ovalau, but this catered primarily to the small European community that had settled in the islands.*

With the cession of the islands, Fiji became a colony of Great Britain and a colonial administration was set up. The first government medical officer, Dr. William McGregor, was appointed in 1875, during which year a disastrous epidemic of measles occurred, resulting in the deaths of some 40,000 Fijians—about one third of the total indigenous population—in a matter of three months. This disaster demonstrated the danger arising from the introduction of a new disease to a non-immune population.

The death of such a large proportion of the local population led to problems in the operation of the various plantations established by the Europeans. These suffered from a shortage of labor to harvest and maintain the sugar cane and copra plantations on which the local economy was heavily dependent. Additional labor therefore was sought by a system of indentures, whereby people were recruited from other countries, mainly from India, for stated periods, after which time these indentured laborers might either return to their countries of origin, or remain in Fiji as workers. In 1879, the first group of indentured laborers and their families arrived in Fiji from India, having experienced, during their voyage, both cholera and smallpox. With the epidemic of 1875 in mind, it was realized by the colonial administration that the introduction of a new infection into Fiji could be disastrous, and the ship was placed in quarantine for two months. However, Dr. McGregor decided to train some Fijians in the method of smallpox vaccination, this being the only method of prevention at the time to curb the spread of an introduced disease.

This training was begun in 1879, and the trained local vaccinators proved so successful it soon became evident that they were carrying out so much more than the simple vaccinations in which they had been trained, and were considered by the local population to be of assistance in the management of many conditions unrelated to smallpox.

When the capital was moved from Levuka to Suva in 1882, the old Levuka hospital was also moved to Suva. It was then decided to train "native medical practitioners," who were to receive three years training at the "Suva Medical School," established on the grounds of the Suva Hospital in 1885. The first three Fijian students graduated from the school in 1888, and were sent to act as medical practitioners in rural areas. The Suva Medical School was the origin of the Fiji School of Medicine, although its full development was slow.

In 1928, Dr. S.M. Lambert, author of "Yankee Doctor in Paradise," persuaded the Rockefeller Foundation to assist in the construction of a new school on the grounds of the Colonial War Memorial Hospital, which had been erected in 1923 as a memorial to soldiers killed in the first world war, the aim being to encourage the training of students from territories other than Fiji. The first such students had been trained at the Suva Medical School in 1917 when two students from the Tokelau Islands, which lie to the north of Samoa, had received their three years of training at the school. The newly constructed school was renamed the Central Medical School, and the period of training was extended from three to four years.

It was largely through the efforts of Dr. Lambert that students from outside of Fiji were routinely accepted for training at the school, which became the medical training center for most Pacific Island territories, the majority of which were then administered by European powers. In 1951, graduates from the school were titled "Assistant Medical Practitioners" and their prescribed duties involved responsibility for many public health activities.

In 1952, the course of training in medicine, surgery, and obstetrics was extended to five years, with an additional year of practice in the hospital. The graduates, by this time, came from many Pacific territories, returned to their own countries to establish local medical services, but were permitted only to work in government service, and were committed to these services for life or until retirement. Although most territories did have a few expatriate European and American doctors who guided the Fiji graduates in their work, it was largely through the efforts of the Fiji graduates that medical services were established in most islands in the Pacific.

Other courses began, including dentistry and para-medical programs for pathology assistants, pharmacy assistants, radiology technicians, and others. These students trained at the Central Medical School and then went home to provide services in their own countries, the costs of their training being borne by the various governments concerned.

A new building was constructed by the British administration at Tamavua, some 4 miles from the hospital, in 1953, and officially opened by her Majesty, Queen Elizabeth II. The new building was to house the preclinical students and paramedical sciences students.

The Fiji School of Medicine

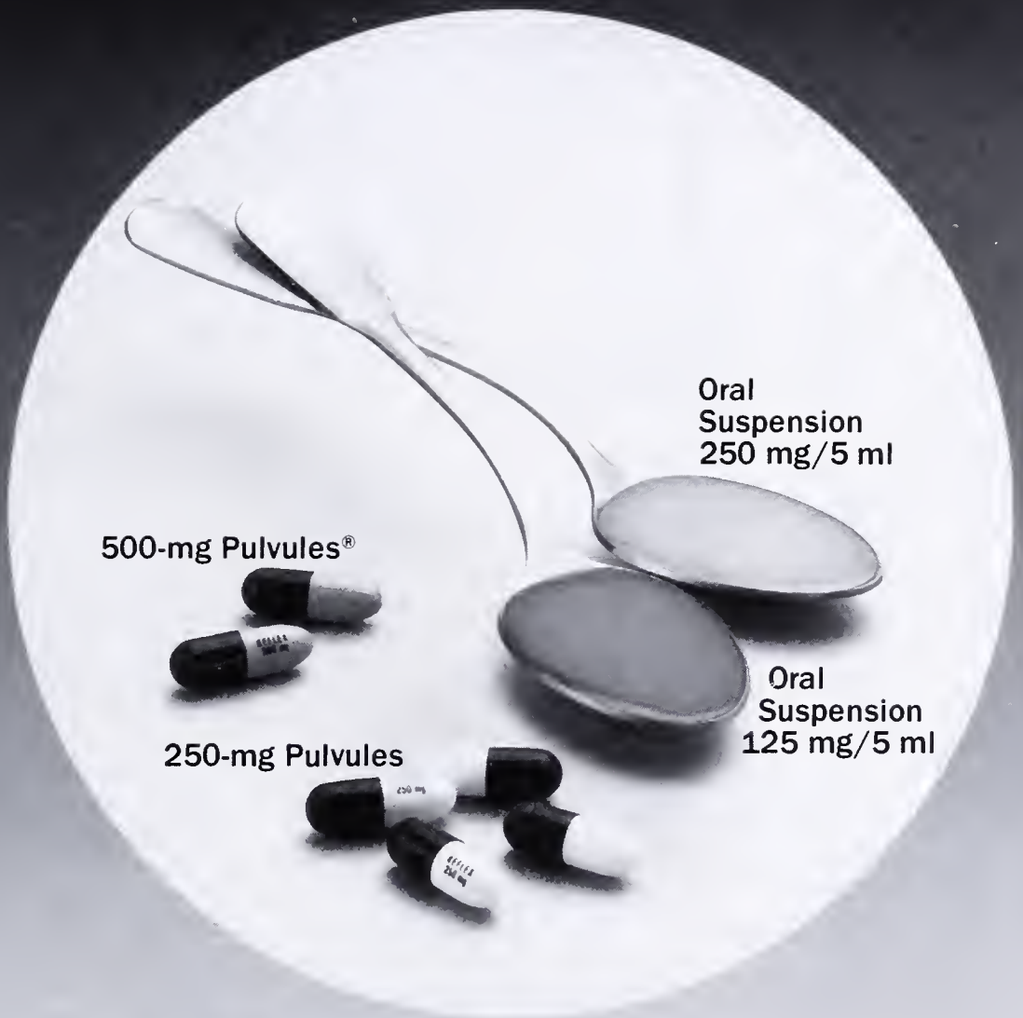
The Central Medical School was renamed the Fiji School of Medicine in 1961. The medical course was then of five years duration, with one year's practice at the hospital. The dental course

Correspondence: Dr. Alan H. Penington, P.O. Box 1300, Suva, Fiji.

Reprints will not be available from the author.

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was of four years duration, and the various para-medical courses were of varying duration depending on the content of the training. Training of nurses was never a function of the Fiji School of Medicine and was conducted under totally separate auspices.

As the result of many donations by various international and national aid programs, additional buildings have been erected at Tamavua, including a Department of Social and Preventive Medicine in 1959, with a generous donation from the Nuffield Foundation of England; a Department of Nutrition and Dietetics, provided by the Freedom from Hunger Campaign in 1966; a new building adjacent to the War Memorial Hospital was constructed and opened in 1967 with accommodations for students, a library, and several lecture halls intended for those students who had reached the clinical years of their training. A laboratory was added for the teaching of pathology in 1970 and was equipped by the World Health Organization. Most men and women studying at the hospital are now accommodated in this newer building, Hoodless House, while the original building at Tamavua is reserved for pre-clinical and ancillary students.

Establishment of a Papua New Guinea School of Medicine had a considerable impact on the Fiji School as, before the establishment of this new school, many students from New Guinea had been trained at the Fiji School. Nevertheless, the Fiji School still has students from many Pacific countries. Graduates in medicine and surgery are awarded the "Diploma in Medicine and Surgery" (D.M.S.) while graduates in the paramedical fields obtain certificates in their respective fields.

The Medical and Dental Practitoners Act of 1972 granted the title of "Medical Officer" to the former "Assistant Medical Practitioners." An amendment to the act in 1974 permitted the right of private practice to those graduates who had served a period of six years in government services in Fiji. According to the 1984 Fiji telephone directory, there are now 59 medical practitioners in Fiji who provide medical services to those who can afford private service. This care is in addition to that provided by the government in Fiji. Not all countries in the Pacific have followed this practice, and most of the graduates from the school in other countries of the Pacific still are confined to government service.

Table
Fiji School of Medicine
Student Enrollment—1984

	Country of Origin												
	Marianas	Cook Islands	Fiji	Kiribati	Papua New Guinea	Solomon Islands	Tuvalu	Tonga	U.S. Trust Territory of Pacific Island States	Vanuatu	Western Samoa	American Samoa	Total
Course of Training													
Medical	1	-	81	2	-	6	-	6	1	1	3	1	102
Dental	-	-	7	-	-	-	-	-	-	-	-	-	7
Para Medical Courses													
Lab Tech.	-	1	8	-	-	1	1	1	-	-	1	-	13
Radiography	-	1	7	2	-	2	-	-	-	-	2	-	14
Physiotherapy	-	-	7	-	1	-	-	-	-	-	-	-	8
Dental Therapy	-	-	5	3	-	-	-	-	-	-	-	1	0
Pharmacy Tech.	-	-	9	-	-	-	-	-	-	-	-	-	9
Asst. Health Inspectors	-	-	9	-	-	-	-	-	-	-	-	-	9
Health Inspectors (Royal Society of Health)	-	-	11	-	-	-	-	-	-	1	-	-	12
TOTALS	1	2	139	8	1	9	1	7	1	2	6	2	179

Post-Graduate Training

While the Ministry of Health has always encouraged post-graduate training, the Fiji School of Medicine has engaged in only two such training programs: the first was initiated in 1957 when the dental course was reduced to three years, and the second, training in prosthetic dentistry, became an optional one-year post-graduate course at the school. From 1960-69 six-month post-graduate training sessions in public health were conducted, leading to a Certificate in Public Health (C.P.H.). This was designed to enable the older graduates to become familiar with newer approaches to public health than had been given during their original courses of training.

Through arrangements with the University of Otago (New Zealand), many of the graduates in medicine and surgery have been able to take a 12-month course in public health at the university leading to a Diploma of Public Health (D.P.H.).

Arrangements also have been made with the Royal Australasian Colleges of Physicians and of Surgeons for selected graduates to undertake training to obtain the specialist qualifications in medicine, surgery, pathology, radiology, anesthesiology and ophthalmology awarded by these colleges. These arrangements, however, were between the government of Fiji and the respective bodies and did not involve graduates from other territories. The East-West Center in Hawaii also has provided training for graduates, particularly in public health.

Exchange programs have been arranged with English, New Zealand, and Australian hospitals, whereby selected graduates may spend three months or longer in gaining experience in the more sophisticated practices of these countries.

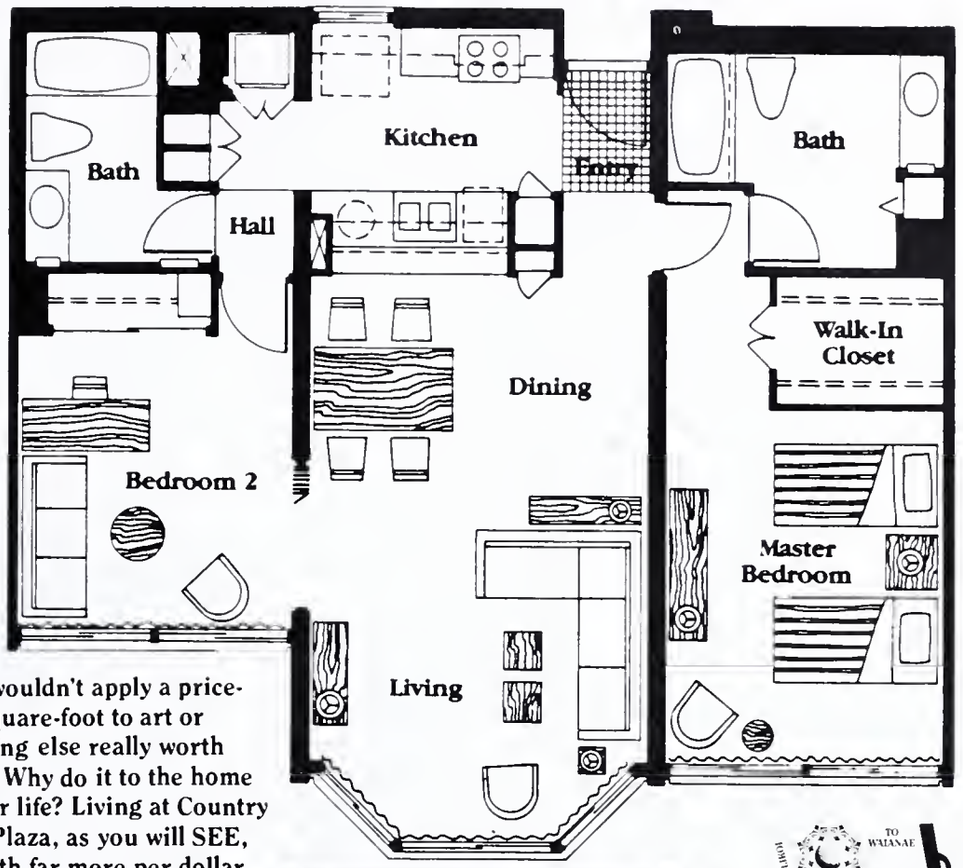
The Fiji School, however, is not engaged in post-graduate training directly and it is unlikely that it will be so engaged in the near future.

Relationship with the University of the South Pacific

The University of the South Pacific (in Fiji) was established in 1968 and took over the pre-entry class for the school and the teaching of the first-year medical and dental basic sciences. In 1978 a team conducted a survey of the needs for a course in medicine and surgery which would lead to a university award of the degree of Bachelor of Medicine and Bachelor of Surgery and to advise the University Senate on all aspects of this subject. In 1979 the university agreed in principle to award the degrees, provided certain requirements were met. It declined to do so on the basis of costs needed to take over the complete conduct of the school.

In December 1981 a memorandum of understanding was signed by the university, the Ministry of Health, and the Fiji School of Medicine whereby the university agreed to begin a degree course in March 1982. The first semester of the medical program began with an intake of 36 students, most of whom will graduate in 1986 and will be awarded the degrees of Bachelor of Medicine and Bachelor of Surgery by the university. The University now is represented on the academic board of the school, and plays a part in

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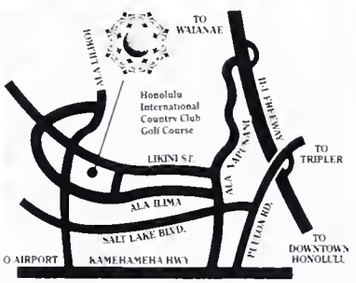
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the selection of members of the teaching staff and in the general planning of the curriculum.

There have always been problems over the staffing of the Fiji School of Medicine, and considerable reliance has been placed on many aid programs provided by different governments and organizations to assist in provision of suitable teaching staff. These have included the governments of Australia, New Zealand, the United Kingdom, the United States, and such organizations as the World Health Organization, the Nuffield Foundation, and others, including the East-West Center in Hawaii—all of which have from time to time provided either short- or long-term teaching staff for the school.

The ultimate aim is that the school should be staffed entirely by citizens of the countries utilizing the school, but this still may take some time until it is to be fully achieved, as most suitable local teachers are heavily committed to patient care in the various hospitals. Nevertheless, this remains the ultimate goal of the school and of the university.

The Future

During the past 15 years, there have been several reports and recommendations concerning the future of the school, prepared and submitted by different advisory groups—including the World Health Organization, an advisory group appointed by the University of the South Pacific—and others appointed by the Fiji government. These, amongst all others, have recommended that the school concentrate its resources solely on the teaching of medicine and dentistry, while the para-medical courses be under the aegis of a school of medical sciences, which would be part of the Fiji Institute of Technology.

New developments are inevitable as medical science has advanced so rapidly within recent years, but what these changes may mean to medical and dental education in Fiji is as yet uncertain. Nevertheless, the school will certainly continue, and may yet play an important role in medical research, particularly in the field of tropical diseases and the epidemiology of non-infectious diseases in developing countries of the South Pacific.

Summary

The Fiji School of Medicine has a long history and will celebrate its centenary in 1985. During this period, it has undergone many changes and has become the center for training of medical and paramedical staff for many island territories in the south, central, and western Pacific. It has not been possible to obtain the total figures for people trained at the school since its establishment, but those in training during 1984 are listed by country of origin and course schedule in the Table. In 1984 the total enrollment is 179 and 12 countries are represented, covering many of the countries in the South Pacific area. Nine different courses,including medicine and dentistry, are being conducted by the school-and concentrate on most of the needs of the developing countries of the area.

At some time since 1917, all countries in the South Pacific except for Australia and New Zealand, have sent students for training at the Fiji School of Medicine, and the school has provided the backbone of the various health services in the area. This is a record which is not to be ignored in any assessment of the value of a medical school anywhere in the world.

ACKNOWLEDGMENTS

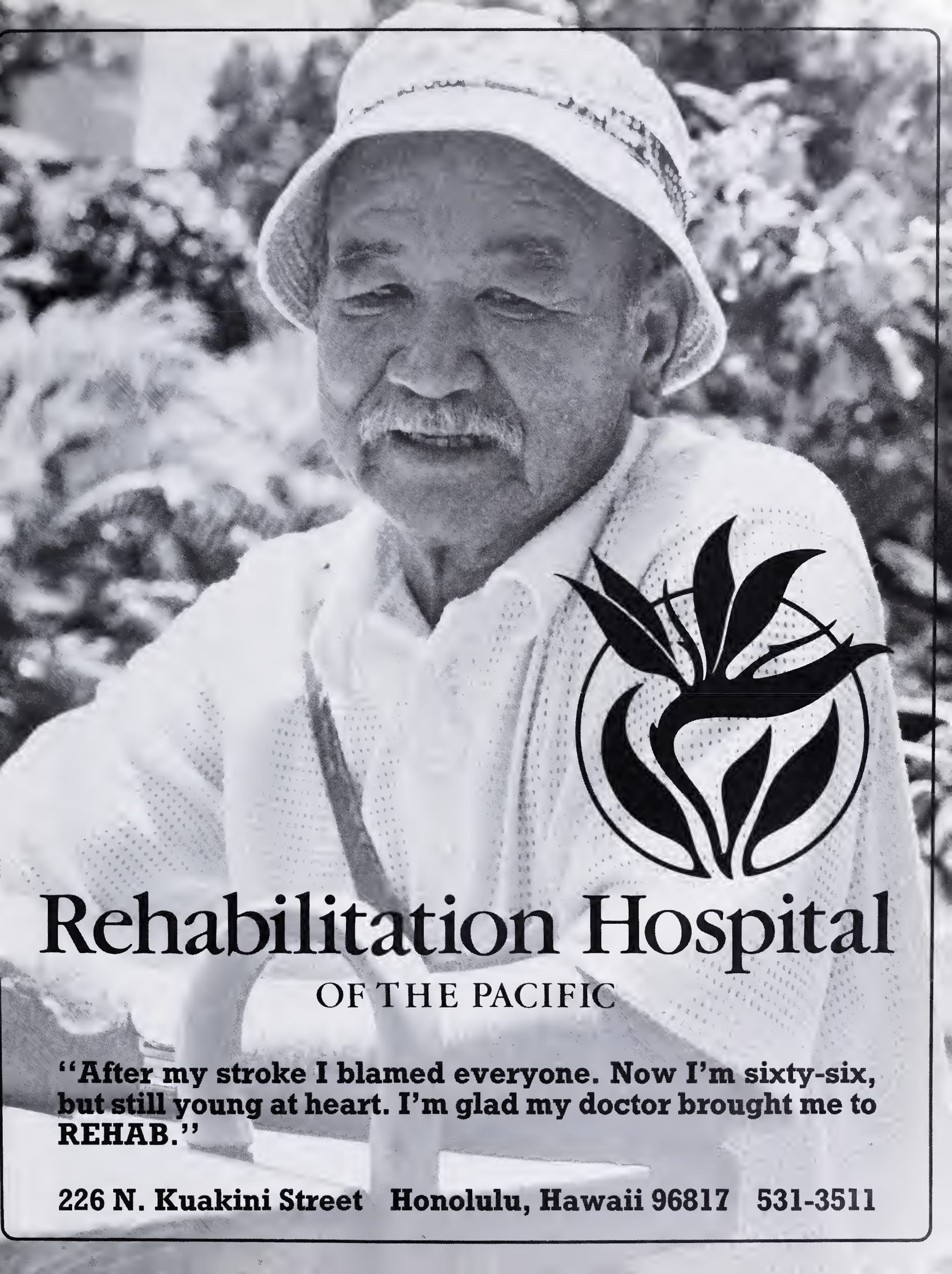
Most of the information contained in this article has been derived from the many annual reports of the original Department of Health, now known as the Ministry of Health and Social Welfare of Fiji. In addition, the Secretary of the Fiji School of Medicine has provided a summary of the history of the school and the details of the 1984 enrollment in the school. All of these sources are reliable, and are duly acknowledged with thanks. Without the information and assistance provided from these sources, it would not have been possible to prepare this brief and rather concentrated history of the school over the period of 99 years.

Hawaii Academy of Family Physicians' Newsletter

Don and Marlies Farrell

Congratulations to **Howman** and **Nancy Lam** on the birth of their fourth child, second son, Edward, on May 20 . . . Once again HAFP is losing a president-elect; **Mona Bomgaars** has left Hawaii and the DOH to accept a faculty position with the Rutgers University School of Medicine. We wish her well! . . . **Bernard Chun** has been appointed by president **John Aoki** to become the new president-elect. Bernie has served as councilor for several years and as secretary in 1982 . . . We also bid aloha to **Pat Dietrich** who is returning to her home state of Pennsylvania. Pat is a past president of HAFP and has long been active in chapter affairs; she will be missed . . . **Tom Cahill** will assume her duties as deputy education chairman at QMC. Tom recently attended the AAFP State Officer's Conference in Kansas City as the representative of HAFP.

The 1985 HAFP Annual Meeting and Seminar is being planned for February 16 & 17. Mark your calendars!



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Trace Metals and Atherosclerosis

Karl K. Fukunaga and Francis H. Fukunaga, M.D., Honolulu

• *Trace metals is the arbitrary designation for those elements found in minute quantities in man. Some of these elements, including chromium, cobalt, copper, fluoride, iodine, manganese, molybdenum, nickel, selenium, silicon, tin, vanadium, and zinc, are considered essential for animal life.[1] How these metals play their essential role is not well understood, but many enzyme proteins and other macromolecules cannot function and some cannot exist in the absence of trace metals.*

There is no evidence for the direct cause-and-effect relationship between the trace metal status and atherosclerosis, but many metals strongly influence risk factors for cardiovascular disease, such as blood lipids, blood pressure, glucose tolerance, coagulation, and levels of circulating insulin. Vanadium depletion causes hypercholesterolemia in rats and chickens.[2] Iodine deficiency can lead to hypothyroidism, which leads to hypercholesterolemia. Chromium, manganese, and zinc affect insulin metabolism, and diabetes and glucose intolerance are well known risk factors for arteriosclerotic heart disease. Zinc deficiency in animals causes impaired glucose tolerance but only with parenteral and not oral glucose.[3]

The death rate due to arteriosclerotic heart disease was higher in areas with soft water than in areas with hard water, and the cumulative effects of trace elements were suspected.[4] There has been a striking decline in U.S. coronary and cardiovascular mortality in recent years due to the improved cardiovascular life support systems, reduced smoking, changes in diet, hypertension control, and exercise programs.[5] The hardness of water has not changed much during this period and many now believe that this factor is probably not related to heart disease.[6] However, it is still premature to conclude that there is no water-factor and that the reported associations were spurious. If a water-factor is important, it may be due to a metal not yet analyzed or not detected in the municipal water supplies, but dissolved from the pipes before consumption. Since soft water causes a greater degree of corrosion, more of the metals could be released from the pipes and fittings.[7] Copper pipes and some zinc-containing pipes and fittings are commonly used in the Honolulu area. This study was undertaken to determine the relative importance of copper and zinc in cholesterol metabolism in Honolulu in a limited normal and patient population.

Materials and Methods

Copper and zinc were measured by atomic absorption spectrophotometry. All glassware was acid-washed in 10% HCl. All standards, controls, and unknown sera were first mixed with 5% trichloroacetic acid (0.5 ml serum + 4.5 ml TCA), vortexed, and centrifuged. The metal content of the supernatant was then determined, using a lean flame and a cathode lamp wavelength at 324.7 nm for copper and 213.9 nm for zinc. Direct aqueous dilution methods were tried, but the best precision was obtained using the trichloroacetic acid precipitation method. Normal values in our group of healthy adults were copper—90 to 140 mg per dl—and zinc—80 to 130 mg per dl. The results of cholesterol, zinc, and copper determinations are shown in the Tables.

Table 1

Cholesterol	Copper	Zinc
186	106	87
181	265	73
220	92	85
198	95	106
204	82	112
178	150	110
196	128	152
173	158	125
224	122	107
187	123	112
239	118	108
195	108	120
164	109	98
224	126	113

Table 2

Cholesterol	Copper
145	192
183	114
229	90
182	114
178	139
218	140
228	85
158	130

Table 3

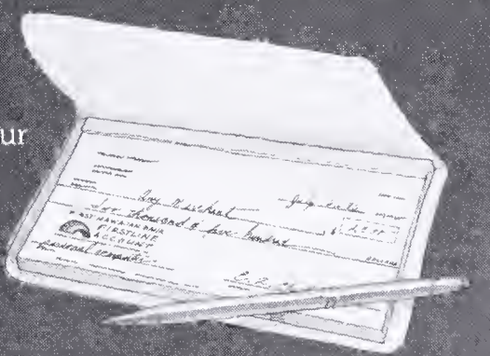
Cholesterol	Zinc
160	75
170	67
232	80
148	82
164	52
202	65
187	61
260	234

Accepted for publication June 1984.

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Discussion

The local geochemical environment and dietary practices can cause imbalances with deficiencies of copper, zinc, iron, and other trace metals. Foods of animal origin are superior sources, compared to plant sources, and sea foods are unusually rich in many trace metals. Absorption of trace elements is regulated by the small bowel mucosa and most are bound by plasma proteins. Starch, proteins, and fiber interfere with absorption by forming firm complexes. Zinc depresses copper absorption and vice versa.

Zinc deficiency, due to marginal dietary intake or excessive urinary loss, is a common condition today, especially in older people. Abnormally low levels are seen in liver diseases, active tuberculosis, indolent ulcers, uremia, myocardial infarction, pregnancy, Down's Syndrome, cystic fibrosis with growth retardation, and in women taking oral contraceptives.[8] Zinc given to young adult males for five weeks caused a 25% decrease of HDL cholesterol.[9] Since the HDL cholesterol is an anti-atherogenic lipoprotein, this supports the theory that zinc may be atherogenic.

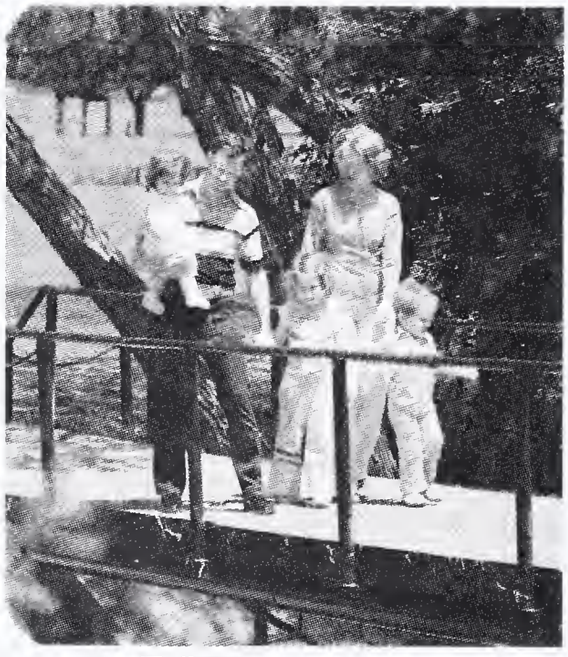
Copper deficiency is found in hypoproteinemia, malnutrition, and malabsorption states such as celiac disease. High levels are seen in various collagen diseases, in infectious, hepatic diseases, malignancies, various anemias, thyrotoxicosis, pregnancy, with use of oral contraceptives, and after major surgery and myocardial infarction, probably as a response to stress. More than 90% of copper is normally bound to ceruloplasmin; elevated copper not bound to ceruloplasmin is characteristic of hepatolenticular degeneration (Wilson's Disease). Copper deficiency causes an increase of cholesterol in rats; one case of human experimental copper deficiency showed hypercholesterolemia. Zinc causes an increase of cholesterol in copper deficient rats; hypercholesterolemia has been produced in rats by increasing the zinc/copper ratio to 40.[10] The increase of serum copper is accompanied by a decrease of zinc following a myocardial infarction.[11]

Summary

The study of the relationship between the trace metals copper and zinc with cholesterol in our normal and patient population showed a negative correlation between serum copper and total serum cholesterol concentration, and a positive correlation between serum zinc and cholesterol levels.

REFERENCES

1. Ulmer DD: Trace elements, *New Eng. J. Med.* 297:318-321, 1977.
2. Lewis CE: The biological actions of vanadium, *AMA Arch. Indust. Health.* 19:419-425, 1959.
3. Mertz W: Trace minerals and atherosclerosis, *Fed. Proc.* 41:2807-2812, 1982.
4. Schroeder HA: Municipal drinking water and cardiovascular death rates, *JAMA* 195:81-85, 1966.
5. Walker WJ: Changing United States life-style and declining vascular mortality: cause or coincidence? *New Eng. J. Med.* 297:000-000, 1977.
6. Hammer DI, Heyden S: Water hardness and cardiovascular mortality, *JAMA* 243:2399-2400, 1980.
7. Crawford MD et al.: Mortality and hardness of local water supplies, *Lancet* 1:827-831, 1968.
8. Halsted JA, Smith JC: Plasma zinc in health and disease, *Lancet* 1:322-324, 1970.
9. Hooper PL et al.: Zinc lowers HDL cholesterol levels, *JAMA* 244:1960-1961, 1980.
10. Klevay LM: Hypercholesterolemia in rats produced by an increase in ratio of zinc to copper ingested, *Amer. J. Clin. Nutr.* 26:1060-1068, 1973.
11. Versieck J et al.: Influence of myocardial infarction on serum manganese, copper and zinc concentrations, *Clin. Chem.* 21:578-581, 1975.



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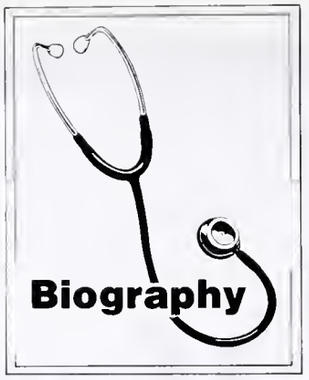
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J.I. Frederick Reppun, M.D.

Garton E. Wall, M.D. —50 Years of Practice

The Hawaii Academy of Family Physicians recently honored Garton E. Wall, M.D., for services to our community as a general and family physician for more than 50 years. He retired from active practice of medicine on November 1, 1983.

Dr. Wall was born in Honolulu on June 2, 1906. His grandfather, Charles J. Wall, was brought to Hawaii by King Kalakaua in 1876 to be one of the architects to design the beautiful Iolani Palace, the only royal palace situated in the United States of America. Mr. Wall lived on an estate in Makiki between what is now Keeaumoku and Makiki streets on the mauka side of Nehoa. Hanahauoli School now occupies what was the Wall pasture for his horses.

Garton's father, Walter, though born in Yreka, Calif. lived here and was head of the Territorial Survey Office, and later of the State Land Office. Old timers will remember Wall & Dougherty with its large clock on the sidewalk of Bishop St. and the Wall-Nichols Stationery store on King St. near Cunha alley; these were run by Garton's uncles. Another uncle headed the Honolulu Board of Water Supply. Garton's mother, nee Edith Dietz, came from Yreka. The couple had four children: Margaret (Flood) died at age 29 of a medical catastrophe in Chicago; Garton; Alice, who married Margaret's widower, Ellerton; and Barbara (Ziegler).

Following in his father's footsteps, as did his siblings, Garton went to Punahou school, graduating in 1924. He then went on to the Lewis Institute in Chicago. This later became the Illinois Institute of Technology.

At the end of just 2 years of college, Garton, together with 5 other college sophomores from around the country, was accepted at Northwestern School of Medicine in an experiment designed to shorten the medical training curriculum. So it was that he graduated in 1931 but, as was customary for many medical schools of that day, he did not receive his medical degree until after two years of hospital training. Garton relates the story of a hapless fellow intern who was reported to have charged a patient a fee. He thereby lost his "amateur" standing and Northwestern never did grant him his M.D.!

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Colleagues from Hawaii at the school about the same time included Pat Burgess and Rod West.

Garton spent 6 months as an intern at Evanston Hospital before transferring to Queen's, where he served for 18 months. Those were the days of the Great Depression, and Queen's forced its interns to take a cut in pay—from $75 down to $50 a month. The late Bob Benson was a fellow intern.

Garton tacked on the M.D. after his name in 1933. The Hawaii Academy, however, has always figured that once out of medical school, a physician starts "practicing" on patients and is responsible for his actions. Interns and residents are "professionals" from the start. So Garton has actually practiced for 52 years. He had some excellent training in ob-gyn at Evanston, and in surgery under Drs. Jimmy Judd and Joe Strode, which prepared him well for plantation medicine. As a vignette of those days in hospital, Garton relates how he managed his first surgical case, an ectopic pregnancy at Queen's. He reported it to Guy Milnor, well-known ob-gyn man, his chief, but the latter said he was too busy in the office and told Garton to go ahead and operate on his own. First, Garton had to go look for enough relatives in Kakaako as blood donors, bring them personally back to the hospital, draw the blood and do the cross-matching in the lab himself and then take the patient to the operating room and perform the surgery. It was successful. What a far cry this is from current surgical training in which a 5th year resident would be allowed to do such, under direct supervision and with a cohort of underlings to assist! And, for $50 a month? No way!

A few *locum tenens* out in the "sticks"—on Molokai for Paul Wiig, at Wailuku Sugar on Maui for Dr. Osmer and then at Pepeekeo on the Big Island relieving Dr. Tom Keay—were punctuated by Garton's marriage to Ellabelle Seagrave of California, in Honolulu. On April 12, the two celebrated their 50th anniversary.

Garton finally got what he wanted all along—the job of plantation physician at Ewa, where he remained for the next 30 years until his "first" retirement in 1964, just about when the Kaiser Plan picked up the ILWU workers. Ewa Plantation Hospital folded a year or two later.

Garton loafed for only a couple of months; when he could stand it no longer, he proceeded to rent office space from the Alsup Clinic on Bishop St., briefly, and then opened a private medical office at the Royal Hawaiian Hotel, where his duties included being available on call to Sheraton guests. However, he chose to be a private solo practitioner with the office open all day, free to see private patients as well. This he did for the next 19 years. Last year he retired for the second time. During the early years of this private general practice he was on staff at Queen's, St. Francis, and Kapiolani, but soon gave up surgery and ob.

Garton became a member of the HCMS, HMA and AMA some 50 years ago, but never sought high office. He was also a long-time member of TAPP, the once famous Territorial Association of Plantation Physicians, beloved of Nils P. Larsen; Garton was its president once. He was also a charter member of the Hawaii Academy of General Practice (September 1951) and has been certified by the ABFP. He is a member of the Pan-Pacific Surgical Association.

Having been a reserve officer in the Navy before the war, Garton was called to active service and had duty at the Old Naval Station Dispensary on the Honolulu waterfront throughout World War II.

On December 7, 1941, he might have been sitting at the breakfast table in his home in Ewa at the time a Japanese Zero strafed the place and a machinegun bullet plowed into the chair seat, except that he was at the hospital doing early morning emergency surgery. The hospital was also strafed. That Sunday, the 53-bed plantation hospital took in 100 casualties, civilians and military alike. Following World War II, he returned to Ewa but remained a physician in the USNR and retired after 22 years of service with the rank of Captain.

The Walls have 4 children and 7 grandchildren. All 4 kids attended Punahou as a third generation of Walls. The oldest is Doug, then Muffie Dominick, Mary Alice Dias, and Lawrence, all living in California.

Hobbies? People. The doctor was married more to his patients than to his family, as he now deplores. To save the kids from commuting from Ewa to Punahou long before the freeway came in, the Walls moved to the ancestral home in Makiki Heights, and it was Garton who commuted to Ewa, sleeping out there every other night and weekend for close to 30 years. He was a charter member of Pearl Harbor Rotary Club, once its president, and had 22 years of perfect attendance before the string was broken by an ocean cruise. He is now a member of the Honolulu Rotary Club.

What would Garton say to a young person contemplating medicine as a career? "If I could, I would do the same thing all over again. I loved every minute of it. But . . . the future of medicine looks grim—a regulated and regimented profession. One would have to have unusual dedication to become a physician (now)," he believes.

As for advice to one already in medical school? "Go into general practice. Be a concerned physician who takes the time to listen to patients. You'll never be sued by your friends!" Even as a physician treating the transient tourist in Waikiki, Garton developed a rapport with such patients that gave him feedback from around the world. He has been a caring physician through all.

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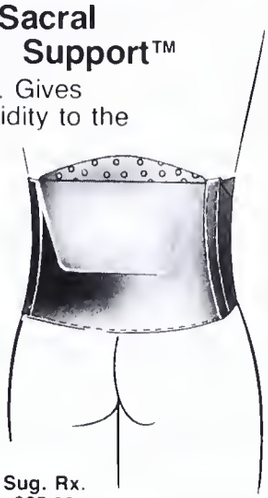
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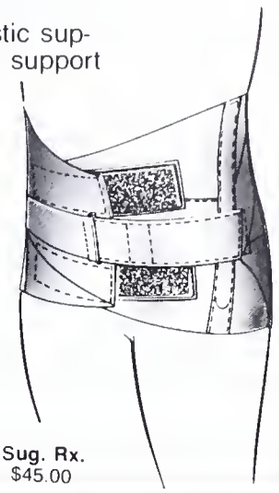
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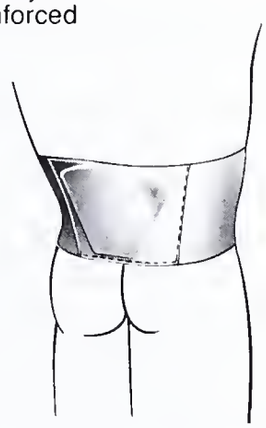
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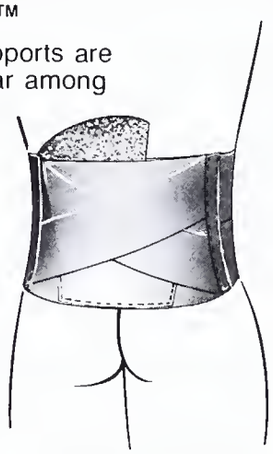
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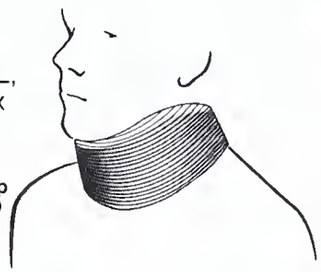
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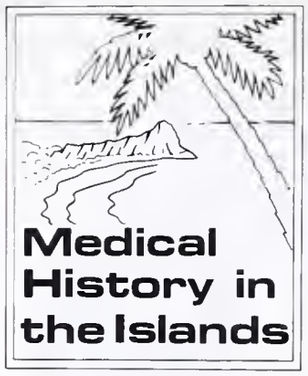
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Charles S. Judd Jr., M.D.

Leprosy in Hawaii, 1889-1976

In July 1884, a royal party from Honolulu visited Kalaupapa on the Island of Molokai on an official tour. The party included Queen Kapiolani, wife of the monarch, Kalakaua; Liliuokalani, the king's sister; and Edward Arning, the German bacteriologist, among others. They were met by the assistant superintendent, Ambrose Hutchinson, and by Father Damien.

Liliuokalani wrote about this visit, describing the problems of the inhabitants of the peninsula, and their shortage of good food, water, and clothing. Included in an "Appendix to the Report on Leprosy of the President of the Board of Health" in 1886 is Liliuokalani's account, along with several other articles, dealing for the most part, with the subject of the contagiousness of leprosy.

It was the belief of Dr. G.L. Fitch, the medical officer-in-charge in 1884, that the disease was not contagious, but this was refuted by Drs. G. Trousseau, J.S. McGrew, N.B. Emerson, and other physicians of Honolulu.

Dr. Arning believed it was contagious and cited Father Damien's case as an example of this. So did Dr. Arthur Mouritz, who became medical director at Kalaupapa in November 1884. They felt that segregation of patients was the best way to control the disease. Mouritz believed that the main entry of the bacilli into the system of man was through the mouth and digestive tract, the "path of the destroyer."[6]

Mouritz did not believe the disease was inoculable. He told of the well-publicized case of Keanu, the convicted murderer whose death sentence was commuted to life imprisonment provided he submit to inoculation with leprosy. Dr. Arning, in 1884, had removed leprous tissue "the size of a small hen's egg" from the cheek of a young girl with leprosy, and implanted it into the muscles of Keanu's right forearm. The murderer developed the typical stigmata of leprosy after 25 months, and died from the disease 8 years later. But he was known to have leprous relatives with whom he had lived closely. So it could not be proven that the implantation had caused his disease.

Father Damien wrote a report to the Board of Health in March 1886 after he had developed the signs of the disease. He spoke of the conditions at Kalaupapa, the need for improvements, the hope for a cure, but noticeably did not mention any ideas about contagion.

Arning in 1885 listed the various treatments for leprosy then in vogue: salicylic and pyrogallic acid, sulfur orally, hypophosphate of soda, mercury, potassium iodide, "electrical" therapy, and general hygiene.

Briefly popular at this time (1886) was the treatment of Dr. Masano Goto of Tokyo, who, working at the leper hospital in Kakaako, employed baths with *hichiyou* bark, Taifuushi, and sulfur in the bath water, a balanced diet, and some specific remedies, *seiketsu-ren* and *yoku-yaku*.

Soon after Father Damien's death in 1889, the number of patients at Kalaupapa reached its peak of 1,213.

In 1885, the Rev. Charles M. Hyde, D.D., visited Kalaupapa for several days, and consecrated the newly erected Protestant church. After Damien's death, he wrote a letter to H.B. Gage, a fellow Protestant clergyman, in which he implied that Damien had had impure relations with women. Robert Louis Stevenson, on reading of this accusation in a newspaper in Sydney, Australia, in 1890, wrote a vehement letter in rebuttal to Hyde's, and defended Damien staunchly. He had it printed in Australia and subsequently sent copies for reprinting to Honolulu, Scotland, and England.

Mouritz was physician to the leper settlement from 1884 to 1887, and was succeeded by several other physicians until W.J. Goodhue, who held the post from 1902 to 1925.

In 1909, the U.S. Public Health Service built and opened a leprosy investigating station at Kalawao, Molokai, at a cost of $300,000. Avowing scientific pursuit, it depended on volunteer patients, but was able to attract only 9 out of the 900 then living on the peninsula. The people were reluctant to become "guinea pigs" in this strange institution, manned by outsiders. The effort petered out as, one by one, the volunteers returned to the community. Within two years the project was dead and the building left to decay, along with the expensive equipment therein.

The same year saw the great bacteriologist of Europe, Robert Koch, visit Kalaupapa, and it was shortly before this that Dr. H.T. Hollman originated a

therapy for leprosy using ethyl ester extracts of chaulmoogra oil.

Father Damien was by far the most famous personage of Kalaupapa. His 16 years, 1873-1889, at the settlement were an example of service and eventual martyrdom.

Performing great service over a much longer period, 1886-1931, Brother Joseph Dutton, a Civil War veteran and Trappist monk, has not really been given much acclaim, possibly because he did not contract leprosy.

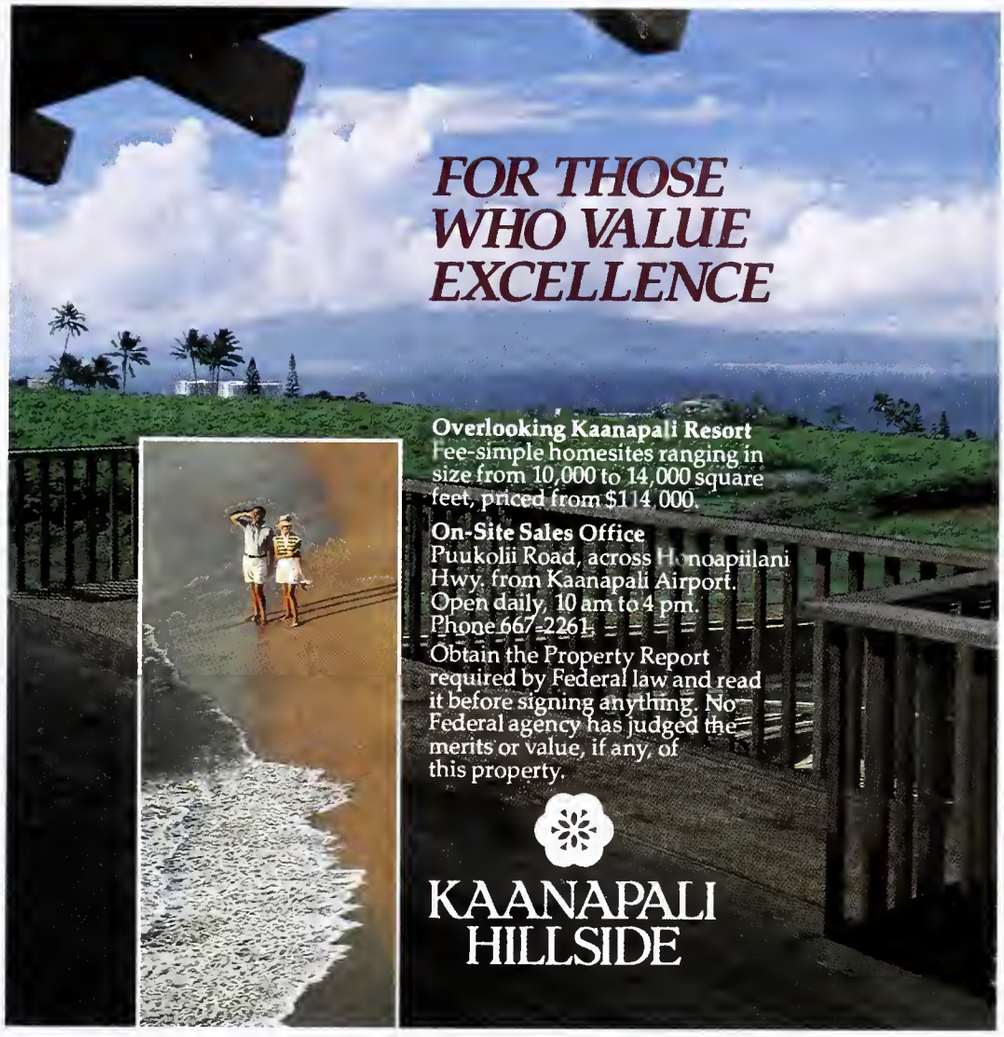
Mouritz, in describing Damien, states, "The contact of Damien with leprosy was always careless and reckless during the few years I was connected with the Settlement. I never hesitated to scold him and lecture, because it set a bad example to other non-lepers."

Mouritz's description of Dutton, on the other hand, was as follows: "He never ceased to be neat and clean, and I have always believed this was his salvation and protection from leprosy . . . he has always been careful, cleanly, and prudent whilst in contact with leprosy." By another turn of events, had Damien been careful about cleanliness and Dutton less careful, it might have been Dutton who would be revered as the martyr.

As leprosy came to be diagnosed by physicians practicing in Hawaii, and as diagnosed patients were segregated at Kalaupapa, the incidence of the disease gradually diminished over a period of several decades, and the total number of residents at the settlement decreased as patients died of the disease. By 1915, there were only 638 resident patients at Kalaupapa, less than half the number of 1890.

The plight of those sent to Molokai was never diminished. They were banished forever from normal society and often from their loved ones, destined to live out their days with others in the same situation.

In 1930, an Advisory Committee on Leprosy in Hawaii, appointed by Governor Lawrence M. Judd, made some innovative recommendations and included plans for capital improvements by an able engineer, Harry A. Kluegel. The committee suggested that an epidemiologist be appointed to survey case histories of patients from the standpoint of heredity, family incidence, and contact; that there be no further involuntary transfer of patients to Kalaupapa, but that patients be hospitalized at an improved hospital in Kalihi; and that social services should be increased in order to improve morale of patients. A sum of $200,000 was appropriated by the legislature for capital improvements, including a new hospital at Kalaupapa, and $375,000 for improvements and expansion at the Kalihi facility. Kluegel was eventually appointed director of the Territorial Board of Hospitals and Settlements. Governor Judd later became su-





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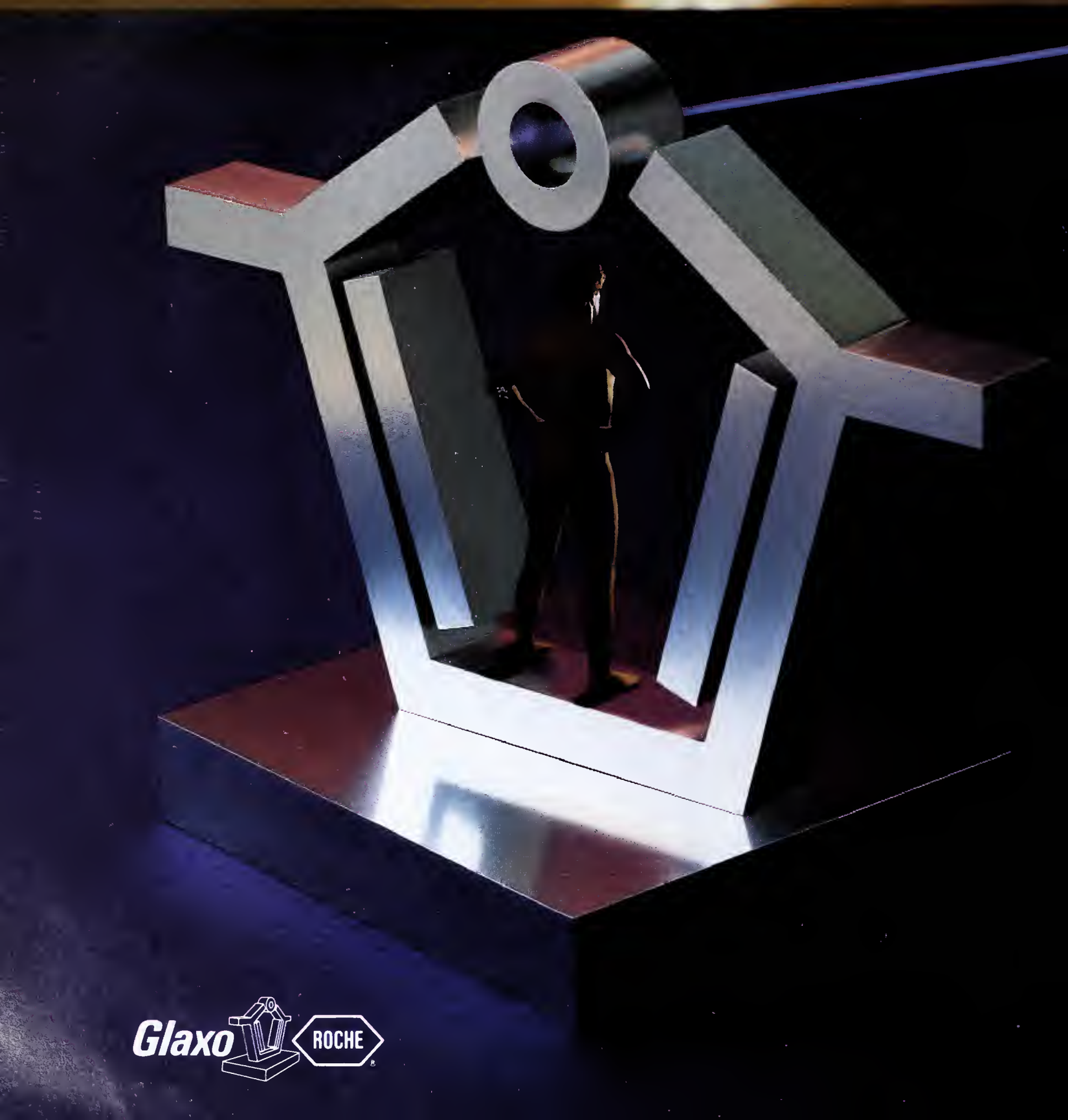
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In active duodenal ulcer

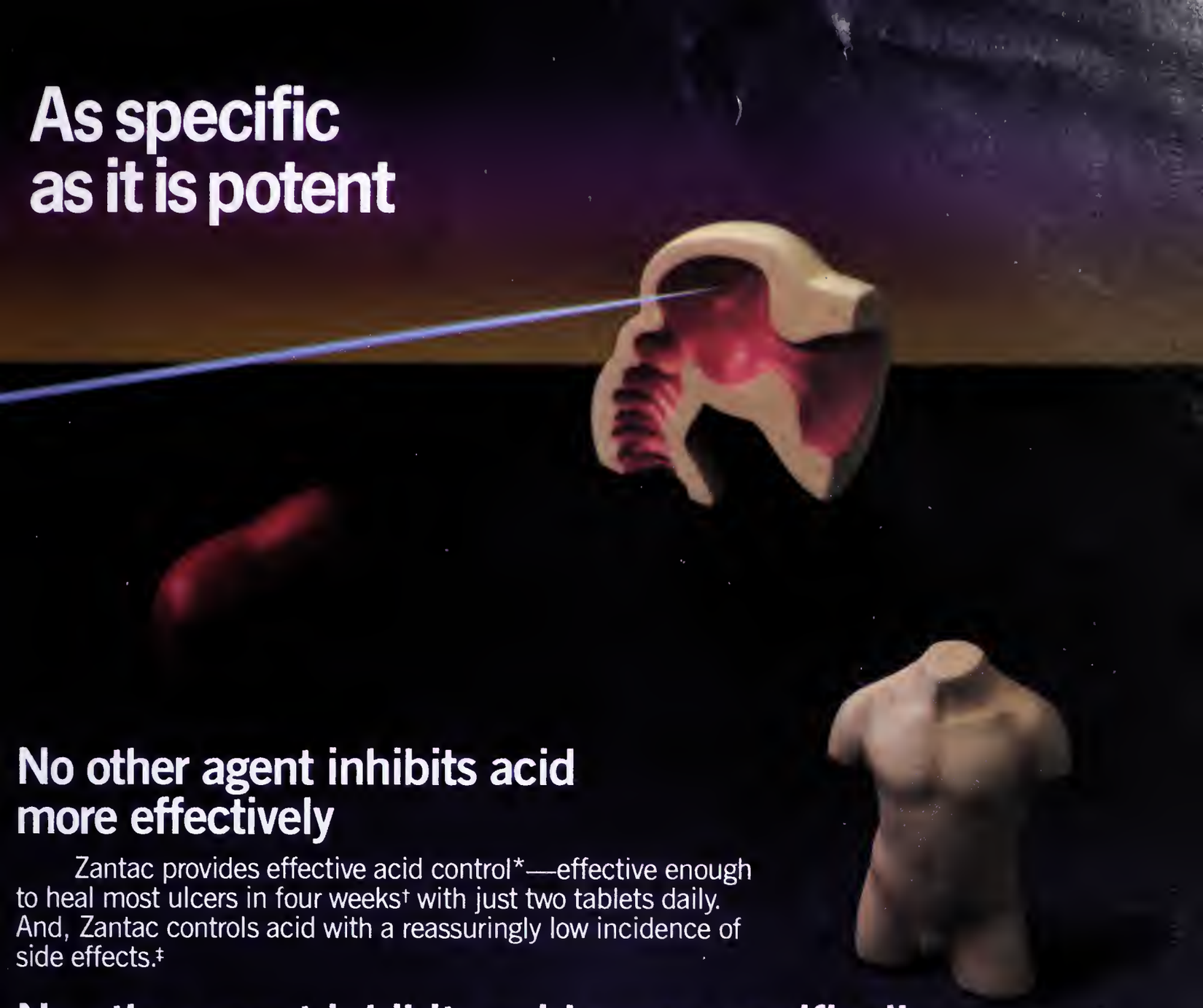
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*It is not known exactly how much inhibition of gastric acid secretion is required to heal ulcers.
†37% of patients can be expected to show complete healing at the end of two weeks; if healing is documented, treatment can be discontinued.
‡See ADVERSE REACTIONS section of Brief Summary for complete description of reported events.

Please see following page for Brief Summary.

In active duodenal ulcer

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[ranitidine HCl/Glaxo] 150mg tablets

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BRIEF SUMMARY OF PRESCRIBING INFORMATION

INDICATIONS AND USAGE: ZANTAC® (ranitidine hydrochloride) is indicated in:

1. Short-term treatment of active duodenal ulcer. Most patients heal within 4 weeks. Studies available to date have not assessed the safety of ranitidine in uncomplicated duodenal ulcer for periods of more than 8 weeks.
2. The treatment of pathological hypersecretory conditions (eg, Zollinger-Ellison Syndrome and systemic mastocytosis).

In active duodenal ulcer and hypersecretory states, antacids should be given as needed for relief of pain.

CONTRAINDICATIONS: ZANTAC® is contraindicated for patients known to have hypersensitivity to the drug.

PRECAUTIONS: General: 1. Symptomatic response to ZANTAC® therapy does not preclude the presence of gastric malignancy. 2. Since ZANTAC is excreted primarily by the kidney, dosage should be adjusted in patients with impaired renal function (see DOSAGE AND ADMINISTRATION). Caution should be observed in patients with hepatic dysfunction; ZANTAC is metabolized in the liver and, at present, the effects of hepatic disease on the metabolism of ZANTAC is unknown.

Laboratory Tests: False positive tests for urine protein with Multistix® may occur during ZANTAC therapy and therefore testing with sulphosalicylic acid is recommended.

Drug Interactions: Although ZANTAC has been reported to bind weakly to cytochrome P450 *in vitro*, recommended doses of the drug do not inhibit the action of the cytochrome P450-linked oxygenase enzymes in the liver. However, there have been isolated reports of drug interactions which suggest that ZANTAC may affect the bioavailability of certain drugs by some mechanism as yet unidentified (eg, a pH dependent effect on absorption or a change in volume of distribution).

Carcinogenesis, Mutagenesis, Impairment of Fertility: There was no indication of tumorigenic or carcinogenic effects in lifespan studies in mice and rats at doses up to 2000 mg/kg/day.

Ranitidine was not mutagenic in standard bacterial tests *(Salmonella, E Coli)* for mutagenicity at concentrations up to the maximum recommended for these assays.

In a dominant lethal assay a single oral dose of 1000 mg/kg to male rats was without effect on the outcome of 2 matings per week for the next 9 weeks.

Usage in Pregnancy: ***Pregnancy Category B.*** Reproduction studies have been performed in rats and rabbits at doses up to 160 times the human dose and have revealed no evidence of impaired fertility or harm to the fetus due to ZANTAC® (ranitidine hydrochloride). There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers: ZANTAC is secreted in human milk. Caution should be exercised when ZANTAC is administered to a nursing mother.

Pediatric Use: Safety and effectiveness in children have not been established.

Use in Elderly Patients: Ulcer healing rates in elderly patients (65-82 years) were no different from those in younger age groups. The incidence rates for adverse events and laboratory abnormalities were also not different from those seen in other age groups.

ADVERSE REACTIONS: The following have been reported as events in clinical trials or in the routine management of patients treated with ZANTAC.® The relationship to ZANTAC therapy has been unclear in many cases. Headache, sometimes severe, seems to be related to ZANTAC administration.

Central Nervous System: Rarely, malaise, dizziness, somnolence, insomnia and vertigo. Rare cases of reversible mental confusion, agitation, depression and hallucinations have been reported, predominantly in severely ill elderly patients.

Cardiovascular: Rare reports of tachycardia, bradycardia, premature ventricular beats.

Gastrointestinal: Constipation, diarrhea, nausea/vomiting, abdominal discomfort/pain.

Hepatic: In normal volunteers, SGPT values were increased to at least twice the pre-treatment levels in 6 of 12 subjects receiving 100 mg q.i.d. IV for 7 days, and in 4 of 24 subjects receiving 50 q.i.d. IV for 5 days. With oral administration there have been occasional reports of reversible hepatitis, hepatocellular or hepatocanalicular or mixed, with or without jaundice.

Musculoskeletal: Rare reports of arthralgias.

Hematologic: Rare reports of reversible leukopenia, granulocytopenia, thrombocytopenia and pancytopenia.

Endocrine: Controlled studies in animals and man have shown no stimulation of any pituitary hormone by ZANTAC, no anti-androgenic activity, and cimetidine-induced gynecomastia and impotence in hypersecretory patients have resolved when ZANTAC® (ranitidine hydrochloride) was substituted. However, occasional cases of gynecomastia, impotence and loss of libido have been reported in male patients receiving ZANTAC, but the incidence did not differ from that in the general population.

Integumental: Rash and rarely alopecia.

Other: Rare cases of hypersensitivity reactions (eg, bronchospasm, fever, rash, eosinophilia), small increases in serum creatinine.

OVERDOSAGE: There is no experience to date with deliberate overdosage. The usual measures to remove unabsorbed material from the gastrointestinal tract, clinical monitoring and supportive therapy should be employed.

Studies in dogs receiving doses of ZANTAC® in excess of 225 mg/kg/day have shown muscular tremors, vomiting, and rapid respiration. Single oral doses of 1000 mg/kg in mice and rats were not lethal. Intravenous LD_{50} values in rat and mouse were 83 mg/kg and 77 mg/kg, respectively.

DOSAGE AND ADMINISTRATION: Dosage Adjustment for Patients with Impaired Renal Function: On the basis of experience with a group of subjects with severely impaired renal function treated with ZANTAC,® the recommended dose in patients with a creatinine clearance less than 50 ml/min is 150 mg every 24 hours. Should the patient's condition require, the frequency of dosing may be increased to every 12 hours or even further with caution. Hemodialysis reduces the level of circulating ranitidine. Ideally, the dosage schedule should be adjusted so that the timing of a scheduled dose coincides with the end of hemodialysis.

HOW SUPPLIED: ZANTAC® Tablets (ranitidine hydrochloride equivalent to 150 mg ranitidine) are white tablets embossed with "ZANTAC 150" on one side and "Glaxo" on the other. They are available in bottles of 30 tablets (NOC 0173-0344-40), 60 tablets (NDC 0173-0344-42) and unit dose packs of 100 tablets (NOC 0173-0344-47).

Store at controlled room temperature in a dry place. Protect from light. Replace cap securely after each opening.

Revised: July 1984

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perintendent of the settlement, long after his term as governor was over.

Ironically, the tragic plight of the lepers at Kalaupapa always contrasted with the beauty of the peninsula. Many visitors to Hawaii were attracted to the place and the subject of leprosy was treated by many authors. Jack London's stories are well known, and recent contemporary writers O.A. Bushnell and Gavan Daws have made outstanding contributions.

Doctors, clerics, and politicians often found their way to Kalaupapa. Entertainers included such people as Shirley Temple, Irving Berlin, Edgar Bergen, Dennis Day, Olsen and Johnson, Art Linkletter, and Paul Robeson. In 1937, Ernie Pyle spent 12 days in the settlement. His syndicated articles brought the atmosphere and pathos of Kalaupapa to millions of homes. His description of a farewell at the settlement emphasizes the loneliness of the lepers:

"And now, before the pack-donkey and the saddle horse come to take me up that appalling 2,000-foot cliff out into the other world again, there is just one more thing:

"No man dare say that he has advanced through the curriculum of all emotions until he has had sung to him the beautiful 'Aloha Oe', Hawaii's song of greeting and farewell, by the leper singers of Kalaupapa.

"The night was dark, and even the nervous palm fronds were still. I stood while they sang. Aloha Oe . . . Farewell to Thee . . . farewell to thee forever . . . And any man, going away, who can stand and hear the last fragile notes fade from the throats of the leper singers of Kalaupapa without tears in his eyes—well, he would be better off dead."

A breakthrough in the definitive treatment of leprosy (by then known preferably as Hansen's disease) occurred in the early 1940s when the sulfone drugs, used initially to cure experimental tuberculosis in guinea pigs, were adapted for use in leprosy. Initial clinical trials at the national leprosarium in Carville, La., had resulted in success. In 1946, the sulfones, promin, diasone, and promizole, were introduced for use at Kalaupapa. The medical director at the time was Dr. Norman R. Sloan. Carefully and untiringly he measured dosages accurately, kept careful records, and was constantly on the lookout for intolerance or untoward reactions to the drugs. In June 1950, he was able to report to the Territorial Medical Association the results of a 3-year program of treatment using the sulfones. In 346 patients treated, of those receiving promin, 83% improved; diasone, 83% improved; and promizole, 67% improved. Some patients received a combination of the drugs, and of these 89% improved.

Dr. Edwin Chung-Hoon, reporting in 1956, described 271 new cases treated with sulfones during the decade, 1946-56. Of these, 92.5% improved, and by the end of



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2 years of treatment 60% were able to be discharged home.

These encouraging results were complemented during the next 2 decades by the development of more refined and effective drugs with less toxicity or side reactions, and by observations of the effectiveness of treatment programs. In the fall of 1968, the Hawaii Department of Health appointed a Citizens' Committee on Leprosy to review Hawaii's facilities for patients and the program of treatment. This was aided by informational work initiated by A.A. Smyser, editor of the Honolulu Star-Bulletin.

The committee, chaired by Thomas K. Hitch, Ph.D., pointed out that 2 significant medical advancements had revolutionized the management of leprosy: (1) the effectiveness of the sulfone drugs; and (2) the observation that if a patient with leprosy bacilli in his skin be under sulfone treatment for 30 to 90 days, he no longer will be contagious, the drug killing the bacilli within this period. Referring to these 2 points, the committee recommended revisions in the Laws of Hawaii with respect to the need for hospitalization and segregation of Hansen's disease patients, out-patient treatment, community education, and physician education.

In 1969, the legislature liberalized the public health regulations regarding leprosy. Some of the changes are reflected in the following:

1. Patients with leprosy will receive treatment either as out-patients under the supervision of a physician or if recommended, in a hospital. (Hospitalization is really only necessary if a clear danger to the public health exists.)
2. If a patient is hospitalized, or under treatment and believes he no longer needs to be there, he can request an examination by a panel of 3 physicians for release.
3. A hospitalized patient may be granted a week's leave for personal or humanitarian reasons.
4. A permit may be granted to persons to visit Hansen's disease patients who are communicable.
5. There will be no restriction on the type of employment that may be engaged in by any person with the non-communicable form or stage of Hansen's disease.

An exciting development, second only perhaps to the discovery of the lepra bacillus by Hansen in 1873, occurred in 1975. Working at Leahi Hospital in Honolulu, Dr. Olaf K. Skinsnes and coworkers were able to grow the leprosy bacillus on a medium, using hyaluronic acid. This event heralded an exciting new era in the elaboration of information about this ancient dreaded disease and parallels the advances made in therapy. It is fortuitous that Hawaii has been the scene for much of the activity with respect to this disease, henceforth to be known as Hansen's disease (to relieve the stigma of the ancient name).

REFERENCES

1. Bushnell OA: *Molokai,* New York, 1963.
2. Daws G: *Holy Man,* New York, 1973.
3. Day AG: *Jack London in the South Seas,* New York, 1971.
4. Hyde CM: "Letter to Rev. HB Gage," in Caldwell EN: *Last Witness for Robert Louis Stevenson,* Norman, 1960.
5. London J: "Koolau the Leper," in Day AG, and Stroven C: *A Hawaiian Reader,* New York, 1959.
6. Mouritz AA St. M.: *The Path of the Destroyer: A History of Leprosy in the Hawaiian Islands,* Honolulu, 1916.
7. Pyle E: *Home Country,* New York, 1947
8. Stevenson RL: "An Open Letter to the Reverend Dr. Hyde of Honolulu from Robert Louis Stevenson. Sydney, 1890", in Caldwell EN; *Last Witness for Robert Louis Stevenson,* Norman, 1960.

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Reagan visited Begin several months later . . . On Begin's desk were three phones in red, white and gold . . . Begin explained that the white phone was a direct line to the White House, the red phone to the Knesset and the gold phone to God . . . Begin explained that the gold phone cost $50 to install and 10 cents a minute to use, conversation with God being a local call . . .

* * *

Then There's the One . . .

Chief White Horse had two good sons, Straight Arrow and Falling Rock. He couldn't choose his successor so he decided to test their relative skills . . . He gave each a bow and a quiver of arrows and told them that whoever returned in 2 days with the most pelts would be the next chief. The chief and the tribe waited anxiously because they loved both sons . . . Just before sunset of the second day, Straight Arrow returned with his horse laden with buffalo hides . . . Falling Rock did not return . . . The chief and the council of elders extended the deadline and waited and waited in vain . . . To this day, you can see signs along the highways in Colorado saying, "Watch Out For Falling Rock . . ." (Another Bob Kemble story)

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CONTENTS

Special Issue
Cancer Detection and Research in Hawaii

Letters to the Editor 341

Continuing Medical Education 342

Book Reviews, Ed: D.G. Massey, M.D. 346
Contributors: Livingston Wong, M.D., James Lumeng, M.D., and J.K. Sims, M.D.

Editorials: 348
Project Medvote—HMA Auxiliary
Cancer Detection and Research in Hawaii
Thomas C. Hall, M.D., Guest Editor

Cancer in Hawaiians—Compared with Other Races in Hawaii, 1978-1982 350
Thomas A. Burch, M.D., M.P.H.

HMA Auxiliary News 354

Screening for Breast Cancer in Hawaii—Further Implications 356
Madeleine J. Goodman, Ph.D., Fred I. Gilbert Jr., M.D. and Gloria Low, R.N., M.P.H.

Hyperthermia and Cancer Research 362
Arnold Feldman, Ph.D.

Reflections of a Former "Cancer Control Physician" 367
Doris R. Jasinski, M.D., M.P.H.

The Natural Killer Cell-Interferon System in Human Carcinoma—Its Relation to Interferon Cancer Treatment Trials 368
Nathaniel P.H. Ching, M.D. Clara Y. Ching, Ph.D., Edward L.S. Jim, M.D., Kevin K. Loh, M.D. Noboru Oishi, M.D., and Donald W.S. Yim, M.D.

Human Tumor Stem-Cell Clonogenic Assay—Another Failed Cancer Fad? 374
Thomas C. Hall, M.D.

New Lexicon Needed 378

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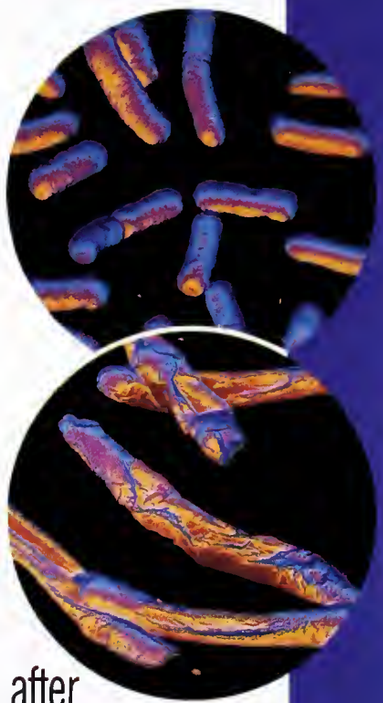
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Please see summary of product information on the following page.

References: 1. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Wormser GP, Keusch GT, Heel RC: *Drugs 24* 459-518, Dec 1982. 3. Ronald AR: *Clin Ther 3*:176-189, 1980. 4. Rubin RH, Swartz MN: *N Engl J Med 303*:426-432, Aug 21, 1980. 5. Cunha BA: *Postgrad Med 70*(6):149-156, Dec 1981. 6. Neu HC: *Infectious Diseases 10*(6):4, 19, Jun 1980. 7. Jones SR: *Ration Drug Ther 13*(11): 1-5, Nov 1979.

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For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.
Also for the treatment of documented *Pneumocystis carinii* pneumonitis.
Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.
Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, hepatocellular necrosis, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.
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Dosage: Not recommended for infants less than two months of age.
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Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.
For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.
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Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.
Supplied: *Double Strength (DS) tablets,* each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 20. *Tablets,* each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. *Pediatric Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). *Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

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Still More on Salt Water Drowning

I was interested in the article on "Salt Water Drowning" by Wong and McNamara in HMJ, June 1984, and also in the letter to the editor by Dr. Odom, who mentioned that there were even more salt water deaths during the '70s than Wong and McNamara had reported to have survived; most of their patients had near-normal blood gases.

Some patients with near-drowning in salt water when checked early have very abnormal blood gases. In 3 such patients, the initial pH varied from 6.85 to 7.11, PCO2s were below 30, and PO2s above 70. All had bicarbonate levels below 15. All did well. In none of these, unfortunately, were blood lactate and blood pyruvate levels measured.

I haven't been able to find reports of such marked acidosis with physical exhaustion. I would be interested in hearing from those with more experience in such patients. Also it would be of interest to document blood gases, blood pyruvate, and blood lactate early after near-drownings.

Richard Reeve, M.D.
Honolulu

A Writer's Response

I was delighted that our paper, "Epidemiologic Patterns of Homicides in the City and County of Honolulu, 1977-83," was published so well and so promptly in the July issue of the JOURNAL. It is especially gratifying to have such dated information appear quickly and I know that the Honolulu Police Department is especially pleased.

R.W. Armstrong
Professor and Head
Dept. of Health and Safety Education
University of Illinois at Urbana-Champaign

Medical Art Exhibit

Please accept this belated acknowledgment for the fine article published in the April issue of the HAWAII MEDICAL JOURNAL. I have used this article for press releases in conjunction with the exhibit of the "Human Form" at the Common Gallery at the University of Hawaii at Manoa, to coincide with the opening of the fall semester.

Many professors from medicine, art, and the humanities have expressed hope that the exhibit will inspire new directions and new insights.

I have been negotiating with the public affairs office at Tripler Army Medical Center to showcase the "Human Form" at that facility. The Hawaii Medical Library also plans to have it in their facility.

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P.S. Queen's patients and their families have been coming to see our monthly exhibitions. It is rewarding to know we are reaching the general public in this way.

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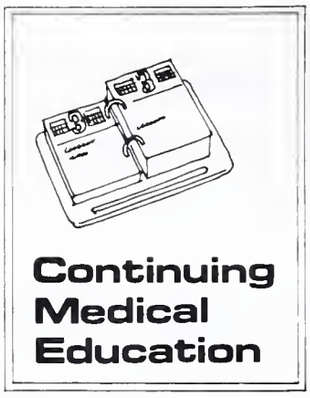


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Update of CME Column:
American Cancer Society Hawaii Melanoma Tumor Board, Third Friday every month, 12:30-1:30 p.m., University Tower, Room 618, 1356 Lusitana St., Honolulu.

SPECIAL EVENTS

All special events should be confirmed with the CME program sponsors, as cancellations are not necessarily reported to the HAWAII MEDICAL JOURNAL.

Oct. 1-5, 1984	International Symposium on Medical Transport—An Emerging Subspecialty, Air Ambulance International, Inc., Michael N. Cowan, M.D., 701 Skyway Boulevard, San Carlos, Calif. 94070, (800) 227-9996, in California (800) 982-5806, (415) 591-9655. Location: Honolulu.
Oct. 3-6, 1984	Sports Medicine Hawaii and Ironman Triathlon, University of California-Irvine School of Medicine, 2312 Havenhill Drive, Benicia, Calif. 94510, (707) 745-2954, Ferdy Massimino, M.D., Location: Kona.
Oct. 6-12, 1984	UCLA Arthroscopy, Janet Frank, Department of Health Sciences, Room 614, 10995 Le Conte Avenue, Los Angeles, Calif. 90024. Location: Maui Marriott.
Oct. 6-13, 1984	Cardiology at University of Southern California, Associate Dean, USC School of Medicine, Postgraduate Associate Dean, USC School of Medicine Postgraduate Division, 2025 Zonal Avenue, KAM 307, Los Angeles, Calif. 90033, (213) 224-7051. Travel agent: USC Cardiology, 3500 South Figueroa Street, Suite 217, Los Angeles, Calif. 90007, (800) 821-5094, in California (800) 521-6511 or (213) 746-1438. Location: Mauna Kea Beach Hotel.
Oct. 6-13, 1984	Current Concepts in Pain Management, Current Concept Seminars, Inc., 3301 Johnson Street, Hollywood, Fl. 33021. Location: Honolulu.
Oct. 13-20, 1984	How to Cope with PPO's Developing a Simplified Approach to Financial Planning for the Physician, Perkins & Zures, Inc., (714) 787-8522.
Oct. 13-21, 1984	Ninth Annual International Body Imaging Conference, Medical Seminars International, Inc., West Park Hospital Medical Office Building, 22135 Roscoe Boulevard, Suite 104, Canoga Park, Calif. 91304, (818) 340-0580, ext. 280. Travel agent: Innovations in Travel, 9545 Resade Boulevard, Northridge, Calif. 91324, (818) 701-1164. Location: Royal Lahaina or Hyatt Regency Maui.
Oct. 20-27, 1984	Ninth Annual Pediatrics for the Practitioner, Miller Children's Hospital, Memorial Medical Center of Long Beach, 2801 Atlantic Avenue, P.O. Box 1428, Long Beach, Calif. 90801-1428. Travel agent: Marilyn's World, Inc., 608 Silver Spur Road, Rolling Hills, Calif. 90274, (800) 624-9521 (except California), in California call (213) 377-5591. Location: Mauna Kea Beach Hotel, Kawaihae, Big Island of Hawaii.
Oct. 20-27, 1984	New Approaches to the Evaluation of Neoplastic Lymphoproliferative Disorders, co-sponsored with University of Southern California School of Medicine Department of Pathology. For information write c/o Dee Chang, University of Hawaii at Manoa, John A. Burns School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 948-6949. Location: Wailea Beach Hotel, Maui.
Oct. 20-27, 1984	Predicting and Preventing Heart Disease—The New Cardiac Breakthrough of the '80s, Professional Seminars, (201) 379-1100, ext. 219. Location: 7-day cruise around the Hawaiian Islands aboard the SS Constitution.
Oct. 21-25, 1984	Medical Group Management Annual Conference—Leadership Through Teamwork, Medical Group Management Association, 1355 South Colorado Boulevard, Suite 900, Denver, Colo. 80222, (303) 753-1111. Location: Sheraton Waikiki. Contact: Sandra Blum, conference director.
Oct. 24, 1984	Diagnosis and Treatment of Type II (NIDDM) Diabetes Mellitus, American Diabetes Association, Professional Education Program. Contact: Esther Chamberland, 510 South Beretania Street, Honolulu, Hawaii 96813, (808) 521-5677. Location: Ala Moana Americana Hotel, Honolulu.
Oct. 25-26, 1984	Living Longer, Enjoying It More, Hawaii Pacific Gerontological Society, Contact: Sylvia Yuen, (808) 948-7722, or Hazel Beh, (808) 537-2211. Location: Hilton Hawaiian Village, Honolulu.
Oct. 25-28, 1984	Allergy, Immunology, and Infectious Diseases, Symposium Maui, Inc., P.O. Box 10185f, Lahaina, Hawaii 96761, (808) 661-8032. Contact: Dr. Joe Harrison, program director. Location: Maui.
Nov. 2-3, 1984	Seminar on Aging: New Hope for an Old Problem, Straub Clinic & Hospital, c/o Jean White, 888 South King Street, Honolulu, Hawaii 96813, (808) 523-2311, ext. 8152. Location: Honolulu Academy of Arts Theatre, Honolulu.
Nov. 5-9, 1984	Diagnostic Radiology Seminars, University of California at San Francisco, School of Medicine, Extended Programs in Medical Education, Room 569-U, San Francisco, Calif. 94143, (414) 666-5731. Location: Maui Marriott Hotel, Maui.

Continued on page 344

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Continued from page 342

Nov. 7-8, 1984	The Basics of Searching Medline, Hawaii Medical Association, 320 Ward Avenue, Honolulu, Hawaii 96814, (808) 536-7702. Location: Kauai.
Nov. 9-11, 1984	Hawaii Medical Association 128th Annual Scientific Meeting, Infectious Diseases: Current Status and New Horizons. Hawaii Medical Association, 320 Ward Avenue, Suite 200, Honolulu, Hawaii 96814, (808) 536-7702. Location: Kauai Surf Hotel, Nawiliwili, Kauai.
Nov. 10-17 1984	How to Save Your Own Life and Financial Security, Professional Seminars, (201) 379-1100, ext. 219. Location: 7-day cruise around the Hawaiian Islands aboard the SS Constitution.
Nov. 12-14 1984	ACOG District VI Continuing Medical Education Fall Annual Meeting, c/o Barbara Kallas, District and Section Services, ACOG, 600 Maryland Avenue S.W., Suite 300, Washington D.C. 20024-2588, (202) 638-5577. Travel agent: Minnesota AAA Travel Agency, 200 1st Street, Rochester, Minn. 55902, Peggy Nixa, (507) 284-3201. Location: Maui Surf.
Nov. 17-24, 1984	Medicine and Society in History, University of Washington School of Medicine, Division of CME, E303 Health Sciences Center, SC-50, Seattle, Wash. 98195, (206) 543-1050. Location: Inter-Continental Maui, also Molokai lecture and tour on Nov. 23-24 (Kalaupapa).
Nov. 24-Dec. 1, 1984	Red Cells in the Sunset: Hematology for the Practicing Physician, Dr. James Linman, University of Hawaii School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, c/o Dee Chang, (808) 948-6949. Location: 7-day cruise around the Hawaiian Islands.
Nov. 27-29, 1984	Pacemaker Update, co-sponsored by the Cordis Corporation. Contact: Dr. Irwin Schatz, University of Hawaii, John A. Burns School of Medicine, Department of Medicine, 1356 Lusitana Street, 7th Floor, Honolulu, Hawaii 96813, (808) 548-2810. Location: Hyatt Regency Maui.
Dec. 2-5, 1984	American Medical Association—Interim House of Delegates, Bob Hobard, Department of Meeting Management, AMA, 535 North Dearborn Street, Chicago, Ill., 60601. Location: The Sheraton Waikiki.
Dec. 1-7, 1984	Financial Management: A Year-End Update, Professional Seminars, (201) 379-1100, ext. 219. Location: 7-day cruise around the Hawaiian Islands aboard the SS Constitution.
Dec. 2-7, 1984	Current Concepts in Emergency Care—Fifth Annual, Institute for Emergency Medical Education and Washington ACEP. Travel agency: Kailani World Travel, 4192 Meridan, Bellingham, Wash., (206) 671-1800, (800) 426-2561. In Washington (800) 562-2597. Location: Kauai.
Dec. 5, 1984	Hypertension Symposium for Hawaii—1984. For information write: Stephen Wallach, M.D., 848 South Beretania Street, Suite 315, Honolulu, Hawaii 96813, (808) 521-3851. Location: The Queen's Hospital, Mabel Smyth Auditorium, Honolulu.
Dec. 5-8, 1984	The Fourth Annual Asian Pacific Congress of Medical Marathoners in conjunction with the 12th Annual AMJA Symposium on the Athletic Heart: Physiological Adaptation to Environmental Stress, c/o Hugh Ames, P.O. Box 27332, Chinatown Station, Honolulu, Hawaii 96827. Location: Sheraton Surfrider and Moana hotels.
Dec. 8-15, 1984	Cross-Cultural Medical Care: A Way to Improve Our Practices, with Dr. Donald Char. Write to: Dee Chang, Continuing Medical Education, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 948-6949. Location: 7-day cruise around the Hawaiian Islands.
Dec. 16-22, 1984	American Chemical Society International Congress, 1155 16th Street, N.W., Washington D.C. 20036. Location: Sheraton Waikiki, Honolulu.
Dec. 24-29, 1984	Emotional Growth in Adult Life-II, American Institute of Medical Education, (818) 842-8818. Location: Kauai Surf.
Dec. 26, 1984-Jan. 2, 1985	Medicine, Magic, and Religion, University of Washington School of Medicine, Continuing Medical Education, SC-50, Seattle, Wash. 98195, (206) 543-1050. Location: Royal Lahaina Hotel on Maui.
Dec. 27-29, 1984	Allergy and Asthma, Symposium Maui, Inc., Joe Harrison, M.D., P.O. Box 10185, Lahaina, Maui 96761, (808) 661-8032. Hawaii Medical Association, 320 Ward Avenue, Suite 200, Honolulu, Hawaii 96814, (808) 536-7702. Location: Royal Lahaina Hotel on Maui.
Jan. 3-5, 1985	Allergy and Dermatology, Symposium Maui, Inc., Joe Harrison, M.D., P.O. Box 10185, Lahaina, Maui 96761, (808) 661-8032. Hawaii Medical Association, 320 Ward Avenue, Suite 200, Honolulu, Hawaii 96814, (808) 536-7702. Location: Royal Lahaina Hotel on Maui.
Jan. 5-12, 1985	Update in Internal Medicine, International Conferences, 189 Lodge Avenue, Huntington Station, N.Y. 11746, (516) 549-0869. Location: 7-day cruise around the Hawaiian Islands aboard the SS Constitution.
Jan. 7-18, 1985	The Hawaii Conference on International Health Promotion and Disease Prevention, School of Public Health, University of Hawaii at Manoa, 1960 East-West Road, Honolulu, Hawaii 96822, Dr. Jonathan Raymond, (808) 948-7337. Location: Maui.
Jan. 10-12, 1985	Allergy and Immune Diseases in Children, Symposium Maui, Inc., Joe Harrison, M.D., P.O. Box 10185, Lahaina, Maui 96761, (808) 661-8032. Location: Royal Lahaina Hotel on Maui.
Jan. 14-16, 1985	Common Problems in Obstetrics, American College of Obstetrics and Gynecology, 600 Maryland Avenue S.W., Suite 300E, Washington D.C. 20024. Attn: Anna Beal. Location: Kauai Surf Hotel, (808) 922-0400.
Jan. 17-19, 1985	Aging and Vitality, American College of Obstetrics and Gynecology, 600 Maryland Avenue S.W., Suite 300E, Washington D.C. 20024. Attn: Anna Beal, (202) 638-5577. Location: Kauai Surf Hotel.
Jan. 18-27, 1985	Hospital Medical Staff Forum, Estes Park Institution, Box 400, Englewood, Colo. 80151. Location: Kauai.
Jan. 18-27, 1985	Hospital Trustee Forum, Estes Park Institution, Box 400, Englewood, Colo. 80151. Location: Kauai.
Jan. 19-26, 1985	Management of Traumatic Emergencies, American Institute of Postgraduate Education, Del Mar, Calif. Contact: Edith Bookstein/AIPE, P.O. Box 2586, La Jolla, Calif. 92038, (619) 454-3212. Location: Kailua-Kona, Hawaii.

Jan. 19-26, 1985	Topics in Perinatal Medicine, with Dr. Robin Willcourt, University of Hawaii School of Medicine, Continuing Medical Education, 1960 East-West Road, Honolulu, Hawaii 96822, c/o Dee Chang, (808) 948-6949. Travel agent: GTU, Inc., 720 North Street, Asaph Street, Alexandria, Va. 22314-1997, (703) 836-4888. Location: 7-day cruise around the Hawaiian Islands.
Jan. 20-26, 1985	Sixth Annual Royal Hawaiian Eye Meeting, Hawaiian Eye Foundation. Contact: Dr. John Corboy, (808) 621-8448. At: The Royal Lahaina Hotel on Maui.
Jan. 27-31, 1985	Advanced Seminars for Physicians, Administrators, and Trustees, Estes Park Institution, Box 400, Englewood, Colo. 80151. Location: Maui.
Jan. 27-Feb. 2, 1985	10th Annual Post Conference Oncology Seminar, Los Angeles Radiological Society Continuing Education Committee, (213) 642-0921. Location: Waiohai-Poipu Beach on Kauai.
Jan. 27-Feb. 2, 1985	11th Annual Post Conference Radiology Seminar, Los Angeles Radiological Society Continuing Education Committee, (213) 642-0921. Location: Waiohai-Poipu Beach on Kauai.
Jan. 28-31, 1985	Cardiology Update, The Straub Clinic & Hospital, 888 South King Street, Honolulu, Hawaii 96813, (808) 523-2311, ext. 8153. Location: Sheraton Waikiki, Honolulu.
Jan. 28-Feb. 1, 1985	Acute MI—Contemporary Diagnostic and Patient Management Methods, International Medical Educational Corp., 64 Inverness Drive East, Englewood, Colo. 80112, (800) 525-8651. Contact: Beverly Jacobsen. Location: Maui.
Jan. 28-Feb. 1, 1985	Cross-Sectional Imaging CT and MRI, Professional Seminars, (201) 379-1100. Location: cruise around the Hawaiian Islands aboard the SS Constitution.
Jan. 31-Feb. 2, 1985	Advanced Seminar for Physicians, Administrators, and Trustees, Estes Park Institution, Box 400, Englewood, Colo. 80151. Location: Kona.
Feb. 2-5, 1985	Otolaryngology Update, University of California-Davis School of Medicine, 4301 X Street, Room 208, Sacramento, Calif. 95817, (916) 453-2801 or 453-2666. Location: Hilton Hawaiian Village in Honolulu.
Feb. 2-9, 1985	Infectious Diseases, University of Colorado School of Medicine, CME; 4200 East 9th Avenue, Box C-295, Denver, Colo. 80262, (303) 394-5241. Contact: Joann Bauer. Location: Kona.
Feb. 5-8, 1985	Cardiology Update. Contact: Moana, Straub Clinic, 888 South King Street, Honolulu, Hawaii 96813, (808) 523-2311, ext. 8153. At: Hilton Hawaiian Village, Honolulu, Hawaii.
Feb. 9-16, 1985	Fifth Annual Sports Medicine Now, American College of Sports Medicine. Contact: Stuart Zeman, M.D., Course Chairman, 2999 Regent Street, Suite 203, Berkeley, Calif. 94705, (415) 540-8686. Location: Maui Surf.
Feb. 11-14, 1985	Update in Laser Medicine and Surgery, Pacific Laser, 119 Merchant Street, Suite 601, Honolulu, Hawaii 96813, (808) 523-6842. Location: Hawaiian Regent Hotel.
Feb. 12-15, 1985	Hawaiian Cardiology Update, Straub Clinic & Institute for Medical Studies; 14761 Franklin Avenue, Suite A, Tustin, Calif. 92680, (714) 832-2650. Contact: Kim Stroich. Location: Honolulu.
Feb. 12-16, 1985	Course in Complex Coronary Angioplasty by Dr. Geoffrey Hartzler, Mid America Heart Institute of St. Luke's Hospital of Kansas City, (816) 932-2220. Location: Maui Surf.
Feb. 16-23, 1985	Nephrology, University of Southern California School of Medicine, Postgraduate Division; 2025 Zonal Avenue, KAM 307, Los Angeles, Calif. 90033. Location: Kapalua, Maui.
Feb. 16-23, 1985	Ethics in Medicine, with Dr. Charles Bodemer, University of Hawaii School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, c/o Dee Chang, (808) 948-6949. Location: 7-day cruise around the Hawaiian Islands.
Feb. 16-23, 1985	Perinatal Medicine, University of Southern California School of Medicine, Postgraduate Division; 2025 Zonal Ave., KAM 307, Los Angeles, Calif. 90033. Location: Maui.
March 2-9, 1985	Medicine and Civilization in China, University of Washington School of Medicine, E303 Healt Sciences Center, SC-50, Seattle, Wash. 98195. Location: Sheraton Kauai on Poipu Beach.
Feb. 25-March 3, 1985	Update in Digestive Diseases, Professional Seminars, (201) 379-1100. Location: cruise around the Hawaiian Islands aboard the SS Constitution.
March 9-16, 1985	Imaging Solutions for the '80s, University of Washington School of Medicine, Division of CME, E303 Health Sciences Center, SC-50, Seattle, Wash. 98195, (206) 543-1050. Location: Royal Waikoloa, Kona.
March 16-23, 1985	Hawaiian Culture and Healing, Dr. Andrew Allan, University of Hawaii School of Medicine, Continuing Medical Education, 1960 East-West Road, Honolulu, Hawaii 96822, c/o Dee Chang, (808) 948-6949. Location: 7-day cruise around the Hawaiian Islands.
March 16-23, 1985	Advances in Drug Therapy, University of Washington School of Medicine, Division of CME, E303 Health Sciences Center, SC-50, Seattle, Wash. 98195, (206) 543-1050. Location: Royal Lahaina Hotel on Maui.
March 18-22, 1985	University of Hawaii Sports Medicine Course, College of Continuing Education and Community Service, Sakamaki Hall, 2530 Dole Street, Honolulu, Hawaii 96822, (808) 948-8244, c/o Joy Lewis. Location: Princess Kaiulani Hotel, Honolulu.
March 22-April 7, 1985	Chinese Culture and Healing, Dr. Andrew Allan, University of Hawaii School of Medicine, Continuing Medical Education, 1960 East-West Road, Honolulu, Hawaii 96822, c/o Dee Chang, (808) 948-6949. Location: 16-day tour of China.
March 23-30, 1985	Vascular Surgery, University of Washington School of Medicine, Division of CME, E303 Health Sciences Center, SC-50, Seattle, Wash. 98195, (206) 543-1050. Location: Royal Lahaina Hotel on Maui.
March 25-29, 1985	OB/GYN Update 1985, co-sponsored with the University of Washington School of Medicine, c/o Dee Chang, Continuing Medical Education, University of Hawaii School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96826, (808) 948-6949. Location: Kauai.

Continued on page 346

CME Events
Continued from page 345

March 30-April 6, 1985	Neurology Update, University of Washington School of Medicine, Division of CME, E303 Health Sciences Center, SC-50, Seattle, Wash. 98195, (206) 543-1050. Location: Royal Lahaina Hotel on Maui.
April 5-22, 1985	Dialogues in OB/GYN with Dr. Abe Mickal, University of Alaska. University of Hawaii School of Medicine, Continuing Medical Education, 1960 East-West Road, Honolulu, Hawaii 96822, c/o Dee Chang, (808) 948-6949. Location: 16-day tour of China.
April 6-12, 1985	Australian and American Psychosomatic Obstetrics and Gynecology Combined Meeting, Dr. Lorraine Dennerstein, Department of Psychiatry, Austin Hospital, Heidelberg, Victoria 3084 Australia, or Dr. David Young, 131 Chadwick Street, Portland, Maine 04102. Location: Hotel InterContinental Maui.
April 12-28, 1985	Medicine in China: East and West, Dr. J. Wellington, University of Hawaii School of Medicine, Continuing Medical Education, 1960 East-West Road, Honolulu, Hawaii 96822, c/o Dee Chang, (808) 948-6949. Location: 16-day tour of China.
April 13-20, 1985	Radiology for the Emergency and Primary Care Physician, American Institute of Postgraduate Education, Del Mar, Calif. Contact: Edith Bookstein/AIPE, P.O. Box 2586, La Jolla, Calif. 92038, (619) 454-3212. Location: Kauai.
April 15-19, 1985	Advancements in Cardiovascular Diagnostic and Therapeutic Methods, International Medical Education Corporation, 64 Inverness Drive East, Englewood, Colo. 80112, (303) 790-8445 or (800) 525-8651. Location: Maui.
April 27-May 4, 1985	Management of the Surgical Patient, Stanford University Medical Center, Office of Postgraduate Medical Education, Room TC 129, Stanford, Calif. 94305, (415) 497-5594. Location: Mauna Kea Beach Hotel

Book Reviews

Ed: Douglas G. Massey, M.D.

Current Surgical Diagnosis and Treatment.
Lawrence W. Way, M.D. 1,221 pp. Lange Medical Publications, Los Altos, Calif. 6th ed. 1983. $28.

This 6th edition is dedicated to J. Englebert Dunphy by his former student, who is a scholar and inspiring professor. The contributors are all excellent teachers in their own right.

The book is written in a concise manner for the novice in the field, but yet is detailed for surgeons. The material contains pertinent recent concepts and up-to-date diagnoses and treatment, as well as important standard clinical diagnostic methods, to remind all of the importance of clinical examination.

The chapters are segregated in standard textbook fashion according to organs and specialty. Yet, the editor has chosen such areas as acute abdomen and special procedures to encourage the reader to think about symptoms as well as diseases. There are no diagrams of surgical procedures as the author has not intended this to be a technical book of this type.

As a textbook in general surgery, I highly recommend this to medical students and residents. For the practicing surgeon, this is an excellent book to update one's diagnostic acumen and knowledge of modern therapeutic methods. As a guide, the family practitioner and internist would find it helpful in daily practice.

Livingston Wong, M.D.
Chief of Surgery
St. Francis Hospital

Correlative Neuroanatomy and Functional Neurology.
J.G. Chusid. 475 pp. 18th edition, Lange Medical Publications, Los Altos, Calif. $15.

Any physician who does not have a copy of this paperbound publication in his/her bookshelf should seriously consider buying one. It is a terrific bargain! Chances are that many of you already have an older edition of this book. Although it has been more than 20 years, I can still remember relying heavily on the 9th edition (1958) to pass the neuroanatomy examinations, to understand a complicated neurological disorder during residency, and subsequently during clinical practice. The basic strengths of the book remain the same: concise, accurate, with abundant, beautifully drawn diagrams and carefully constructed tables. Any criticism regarding the lack of details in the treatment of a topic can easily be dismissed because the book is primarily written for the beginner in clinical neurology and is intended to serve as an aid or supplement to standard neurologic texts.

Few minor errors or omissions do occur and should be corrected in subsequent editions: spinal fluid NPN is no longer available in most clinical laboratories (p. 231); the upper limit or normal serum cholesterol should be substantially less than the stated 280 mg/dL (p. 451); and abdominal CT scan is not mentioned as one of the diagnostic studies useful in detecting pheochromocytoma (p. 384).

James Lumeng, M.D.
John A. Burns School of Medicine

Current Emergency Diagnosis and Treatment.
John Mills, M.D., Mary T. Ho, M.D., and Donald D. Trunkey, M.D., editors. 738 pp. Lange Medical Publications, Los Altos, Calif., 1983. $24.

Practical emergency medicine is one theme of this book. Most chapters are presented in terms of diagnosis and management, with decision tree analysis diagrams and guidelines to obtain specialty backup. Special features include chapters on emergency procedures (e.g., indications, contra-indications, personnel requirements, equipment/medications/supply needs, anatomy review, line drawings on procedures in regard to landmarks and technique); management of mass casualties; and design, operation, staffing, and administration of the emergency department. The inside cover of the book is a drug-dosage table for emergency medications, and the back cover has lists of intravenous fluid compositions and mg/kg-to-patient-weight (kg) conversion tables. There are 25 pages of single-spaced 3-column indices in the back of the book to assist in its functioning as a reference text.

The chapters on abdominal pain and abdominal trauma are succinct and well done in terms of comparative differential diagnostic tables. In subsequent editions, we might hope for additional X-ray and CT scans; an expanded presentation on poisoning; elaboration on the environmental emergencies; and a section on prehospital emergency medical services (EMS) as to standing orders and radio communications with field ambulance personnel in addition to small color atlases of eye and skin emergencies.

The book is worth its price as an emergency department reference text alone.

J.K. Sims, M.D.



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Project Medvote

Project Medvote is the American Medical Association's program to identify unregistered members, spouses, and family members; register them to vote; and encourage their active participation in the 1984 general election.

The officials elected this November will be responsible for the drafting and implementation of legislation which will determine the manner in which medicine will be practiced in this country. The individuals elected will be debating critical issues—DRGs, "Baby Doe," third-party reimbursement, professional liability, etc. Medicine needs your voice to be heard through your vote!

The drive has been conducted by the AMA Auxiliary with assistance from state, county, and specialty societies. The HMA Auxiliary and staff have been cooperating in this work. Voting registration for the November general election closes October 9.

Courtesy of HMA Auxiliary
and Mrs. Sue Pinkerton

Cancer Detection & Research in Hawaii

The State of Hawaii has had a long-term and recently growing interest in the clinical biology of cancer. In this special cancer issue, Dr. Thomas A. Burch of the state Department of Health summarizes our most pressing ethnic cancer problem, that of the unusually high and rising incidence and mortality amongst native Hawaiians.

Drs. Madeleine J. Goodman and Fred I. Gilbert and Ms. Gloria Low present data on how an effective means of early breast cancer detection was applied in Honolulu. One notes again the need to increase utilization of early detection cancer programs by certain ethnic groups including native Hawaiians.

Dr. Arnold Feldman and Dr. Nathaniel P.H. Ching and his co-authors demonstrate that new therapeutic modalities can be sponsored in Hawaii rapidly. The last report, on human tumor stem-cell clonogenic assay, cautions that all that is new and "hyped" may not prove to be clinically helpful.

We gratefully acknowledge the following sponsors for their support of this special cancer issue:

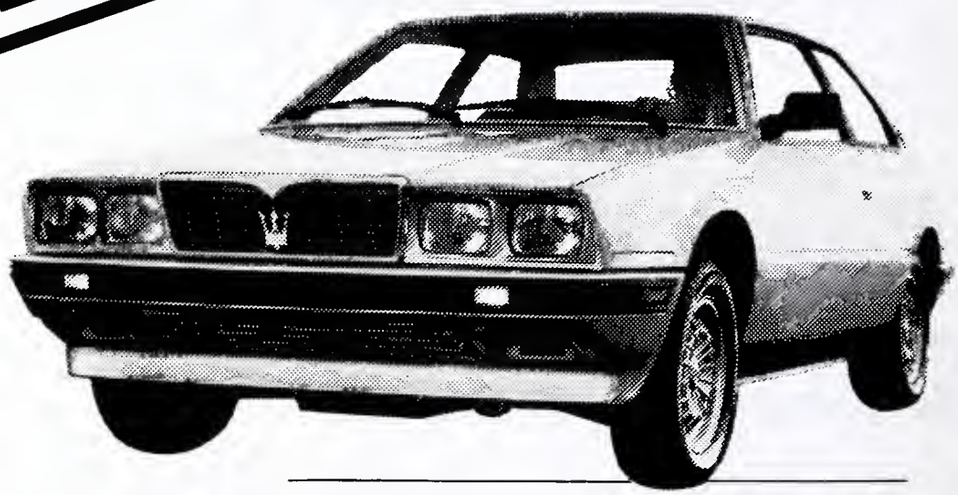
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Thomas C. Hall, M.D.
Editor, Cancer Issue

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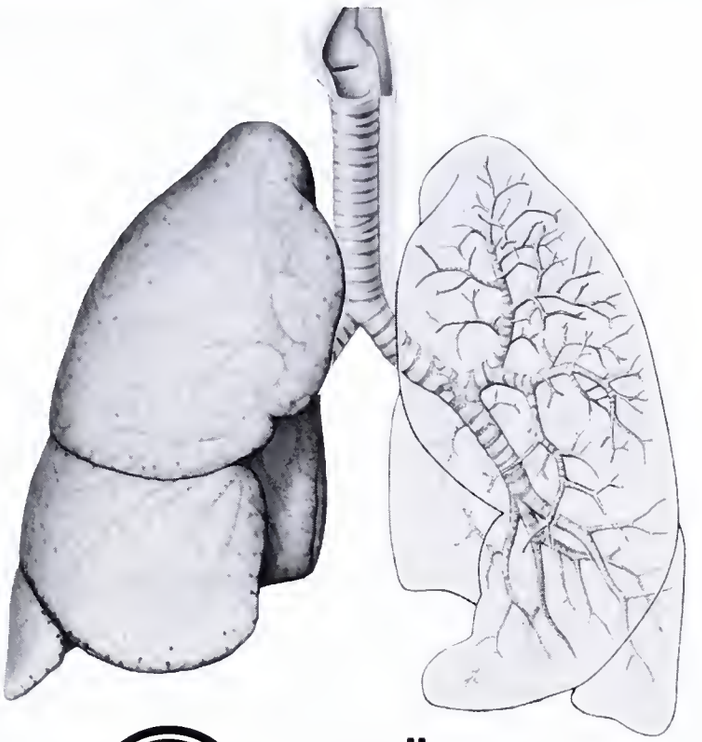
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Brief Summary Consult the package literature for prescribing information

Indications and Usage Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

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Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

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Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins), therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out

Precautions *General Precautions* — If an allergic reaction to Ceclor® (cefaclor, Lilly) occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy — Pregnancy Category B — Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers — Small amounts of Ceclor® (cefaclor, Lilly) have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one hour. The effect on nursing infants is not known. Caution should be exercised when Ceclor is administered to a nursing woman.

Usage in Children — Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions. Adverse effects considered related to therapy with Ceclor are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain — Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic — Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic — Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal — Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[061782R]

Note Ceclor® (cefaclor, Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Cancer in Hawaiians—Compared with Other Races in Hawaii, 1978-1982

Thomas A. Burch, M.D., M.P.H.,* Honolulu

• *Various studies comparing the mortality or incidence of cancer in Hawaii among the various ethnic groups in the state have been published. These studies have reported that the Hawaiian and part-Hawaiian groups have the highest or next to highest rates of most of the cancer sites studied.*[1-5]

Even though the vital statistics program, the health surveillance program, and the Hawaii Tumor Registry record the race of registrants as "Hawaiian," "Japanese-Hawaiian," "Causasian-Hawaiian," or whatever race or combinations of races the individual or informant lists, only a few reports have separated the Hawaiian/part-Hawaiian population into those who profess to have only Hawaiian ancestry from those who say they are part-Hawaiian.[6,7] This is primarily because such "Hawaiians" constitute one of the smallest minority populations in Hawaii. Furthermore, the term "Hawaiian" has been used loosely, and an unknown proportion of those who profess to be "Hawaiian" are, in fact, part-Hawaiian.[8]

Burch and Rellahan[6] reported in 1973 that "Hawaiians" had a much higher incidence of various cancers than did "part-Hawaiians." In addition, Look[7] reported in 1982 that "Hawaiians" had a much higher mortality rate from cancer for the period 1910-1970 than did "part-Hawaiians" or all other races combined.

The present report compares incidence and mortality from all cancer sites combined for Hawaiians, part-Hawaiians, Filipinos, Japanese, and Caucasians for the 5-year period centered around 1980.

Material and Methods

Incidence data by age, sex, and race were obtained from the Hawaii Tumor Registry, which registers all cases of cancer diagnosed or treated at any hospital in the state.

Mortality data by age, sex, and race were obtained from death certificates filed with the vital statistics program of the Department of Health.

Population estimates by age, sex, and race used for calculating age-sex-race specific rates were derived from the health surveillance program of the Department of Health, which conducts household interviews at a random sample of about 2.5% of households throughout the state each year. This was used rather than the U.S. census, because federal census figures on race have not been compatible with the way race is reported in Hawaii since 1960. However, since the health survey excludes persons living in Kalaupapa, Niihau, group quarters, and institutions, an independent estimate of their population was added to the population estimates based on the survey for the population denominators.

Age-standardized rates were calculated by the direct method, using the 1970 census population as the standard population. Confidence limits (C.L.) of 95% were calculated using the table developed by Mantel.[9] A report covering the period 1968-1972, as well as 1978-1982, with detailed tables for population, incidence, and mortality has been published by the Research and Statistics Office of the Department of Health.[10]

The data presented here have been "standardized" or adjusted for age because the age distribution varies markedly from one ethnic group to another.

TABLE 1. Incidence of cancer in Hawaii 1978-1982 age standard rates per 100,000 population with 95% confidence limits

	Hawaiian	Part-Hawaiian	Filipino	Japanese	Caucasian
Males					
Cases	198	616	848	2138	2426
Rate	486.9	194.5	138.2	187.9	263.9
C.L.	543.6-443.6	210.9-179.3	138.2-128.8	199.4-176.4	280.8-247.8
Females					
Cases	185	737	468	1895	2319
Rate	387.6	229.1	166.7	172.2	271.4
C.L.	449.6-334.1	244.8-210.8	183.0-151.9	183.2-161.1	288.8-254.2

C.L. = confidence limits

*Chief, Research & Statistics Office (Acting Deputy Director for Medical Matters) Hawaii State Department of Health.

Accepted for publication July 1984.

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TABLE 2. Mortality from cancer in Hawaii 1978-1982
age standard rates per 100,000 population
with 95% confidence limits

	Hawaiian	Part-Hawaiian	Filipino	Japanese	Caucasian
Males					
Cases	142	365	441	1042	965
Rate	353.9	118.0	69.7	88.5	108.9
C.L.	419.0-298.7	133.8-104.1	76.5-63.5	94.2-83.1	116.3-101.9
Females					
Cases	77	311	167	737	787
Rate	149.5	99.3	64.6	58.5	84.4
C.L.	189.9-117.4	111.3-88.6	75.7-55.2	63.1-54.3	91.0-78.3

C.L. = confidence limits

This procedure gives the rate that a particular race would have, if its age distribution were the same as that of the entire state population. Hence, these rates do not necessarily represent the true rate of cancer—they can only be used to compare the frequency of cancer in the various ethnic groups. Differences in rates can only be considered significant, however, if the 95% confidence limits shown do not overlap those of another population group. It should be noted that the smaller the number of cases, the greater the interval between the confidence limits.

Results

Incidence. The age-standardized incidence rates (Table 1) for Hawaiians were 486.9 and 449.6 per 100,000 population for males and females, respectively, which were significantly higher than any of the other ethnic groups studied. The rates for Caucasians, which were 263.9 and 271.4 for males and females, respectively, were the next highest, and were significantly higher than those of the remaining races. No significant difference existed between the rates of Japanese and part-Hawaiian males nor between Japanese and Filipino females. The rate in Filipino males was 138.2, which was significantly lower than any other group, including Filipino females at 166.7 per 100,000. There were no significant differences between the standardized rates for males and females in any racial group except for Filipinos as mentioned above.

Mortality. The age-standardized mortality rates (Table 2) for Hawaiians were 353.9 and 149.5 per 100,000 population for males and females, respectively, which were significantly greater than that of any of the other ethnic groups. The rate in part-Hawaiians did not differ significantly from the rate in Caucasians in either sex. Filipino males had a mortality rate of 69.7, which was significantly lower than the rate in males of any other race. The rates in male Hawaiians, Japanese, and Caucasians were significantly greater than the rates in females of the same races, while the rates in part-Hawaiians and Filipinos did not differ in the two sexes.

Discussion

There were more cases of cancer diagnosed in Hawaii during the 5-year period 1978-1982 than died during that period. The difference in incidence and mortality rates was less in Hawaiians and part-Hawaiians than in the other races. This is compatible with their having a lower survival rate from cancer than do the other races counted.

Nomura et al.[11] reported in 1981 that the relative survival rate for lung cancer was lower in Hawaiians/part-Hawaiians than in all races studied except Caucasians, when adjusted for sex, age at diagnosis, stage of disease, and socioeconomic status. Wegner et al.[12] reported in 1982 that Hawaiians/part-Hawaiians had the lowest survival rates for colorectal cancer of all races studied when adjusted similarly. Both concluded, however, that the differences in survival in the major races in Hawaii could not be entirely explained by stage at diagnosis, age, sex, or socioeconomic status. Wegner and his co-authors suggested that special attention should be given to investigating the biologic mechanisms and social factors which underlie the favorable survival of Japanese patients, compared to Filipino and Hawaiian patients.

Even though the term "Hawaiian" has been used loosely and an unknown proportion of those who refer to themselves as "Hawaiian" are actually part-Hawaiian, it is apparent that such persons are, in fact, different from "part-Hawaiians" and other races in that they have significantly more cancer as reported herein and by Burch and Rellahan[6] (1973) and Look[7] (1982).

Additional studies appear warranted to elucidate the basis for the greater incidence of, and mortality from, cancer in the Hawaiians and part-Hawaiians in this state. Something other than a low socioeconomic status must be sought since, according to Nomura et al.[11] and Wegner et al.[12], the Filipinos have an even higher proportion of persons with low socioeconomic status than do the Hawaiians/part-Hawaiians, and the studies reported here indicate that Filipinos have one of the lowest cancer rates in the state.

Summary

Rates of cancer incidence and mortality were significantly higher in Hawaiians than in part-Hawaiians, Filipinos, Japanese, or Caucasians.

Studies should be initiated to investigate the factors that may contribute to the excessive rates of cancer in individuals who claim to be of unmixed Hawaiian heritage.

REFERENCES

1. Burch TA: Trends in Cancer Mortality by Race in Hawaii 1910-1970. R&S Report, No. 7, Hawaii Dept. of Health, 1975.
2. Rellahan W, Rashad MN, Burch TA, Okinaga NSG: Cancer Patterns in Hawaii 1960-1964 and 1968-1972. Cancer Center of Hawaii and Hawaii Dept. of Health, 1975.
3. Rellahan W, Rashad MN, Burch TA, Okinaga NSG: Cancer Mortality in Hawaii 1960-1964 and 1968-1972. Cancer Center of Hawaii and Hawaii Dept. of Health, 1977.
4. Hinds W, Kolonel LN, Nomura AMY, Burch TA, Rellahan W: 1973-1977 Cancer Incidence in Hawaii with special reference to trends since 1968-1972 for certain sites, *Haw. Med. J.* 40:1, pp. 7-11, 1981.
5. Rellahan WL: Malignant Tumors of the Female Breast, Hawaii Residents, 1965-69 vs. 1975-1979. R&S Report, No. 37, Hawaii Dept. of Health, 1981.
6. Burch TA, Rellahan W: Cancer Research in Hawaii. Hawaii Health Messenger, 36:4, Hawaii Dept. of Health, 1973.
7. Look MA: A Mortality Study of the Hawaiian People. Hawaii Dept. of Health, R&S Report, No. 38, 18pp. 1982.
8. Burch TA: Racial Differences Between Linked Birth and Infant Death Records in Hawaii. R&S Report, No. 44, Hawaii Dept. of Health, 1983.
9. Mantel N: Appendix C. In: Haenszel W, Loveland DB, Sirken MG: Lung cancer mortality as related to residence and smoking histories. I. White Males *J. Nat. Cancer Inst.* 23:4 1000-1, 1962.
10. Burch TA: Cancer from Selected Sites in Hawaiians Compared With Other Races in Hawaii 1968-1972 and 1978-1982. R&S Report No. 48, Hawaii Dept. of Health, 1984.
11. Nomura A, Kolonel L, Rellahan W, Lee J, Wegner E: Racial survival patterns for lung cancer in Hawaii. *Cancer* Vol. 48:5, pp. 1265-1271, 1981.
12. Wegner El, Kolonel L, Nomura AMY, Lee J: Racial and socioeconomic status differences in survival of colorectal cancer patients in Hawaii. *Cancer* 49:10, pp. 2208-2216, 1982.



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HMA Auxiliary



Lila Johnson (L top row) and JoAnn Lundborg (R seated) of the Hawaii delegation are shown with representatives of other state auxiliaries at the June national meeting in Chicago.

National Meeting

Among the many events in a very busy schedule at the national auxiliary meeting, in June in Chicago, was the acceptance of an award won by "Kauka No Kokua." It was awarded to our auxiliary newsletter as one which has a budget of $500 or less, and was accepted by **JoAnne Lundborg,** HMA Auxiliary president. She was accompanied by **Lila Johnson,** president-elect and chairman of the "two- and three-delegate states division."

AMA-ERF

Three fund-raisers are in the planning stages, announced **Lilian Matayoshi.** The first this fall is a "No Bake Bake Sale." For a contribution to this no-effort-on-your-part sale, donors will receive gourmet recipes from auxiliary members. Secondly, the auxiliary is planning to have take-home goodies *(omiyage)* for sale at the HMA annual meeting on Kauai November 9-11. The third event will be the annual boutique at the state auxiliary convention December 6.

At the June meeting in Chicago, it was announced that the national auxiliary had raised $1,816,768.15 for AMA-ERF.

Exciting First

The first-ever spouses' educational and fun program will be offered at the HMA meeting on Kauai in November, planned and sponsored by the state auxiliary. Mailings should have been received by members. If not, please contact **Lila Johnson** or **Nancy Simmons.**



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Screening for Breast Cancer in Hawaii—Further Implications

Madeleine J. Goodman, Ph.D.; Fred I. Gilbert Jr., M.D.; and Gloria Low, R.N., M.P.H., Honolulu

• *The Hawaii Breast Cancer Detection Demonstration Project (BCDDP), one of 29 breast cancer screening programs nationwide funded by the American Cancer Society/National Cancer Institute, screened 10,031 women of various ethnic groups in Hawaii between March 1974 and December 1979. As previously described in this JOURNAL,[1] the Hawaii BCDDP undertook to compare the efficacy of mammography in relation to physical examination (palpation) as a breast cancer screening modality.*

The Hawaii BCDDP recorded 181 breast cancers in 171 women during its active screening phase. Figures in the present report differ slightly from those published in the 1982 HMJ article, as a result of the reclassification of 2 cases. Of the 181 cancers, 74 cancers (41%) were detected by mammography alone, the lesion being undetected by palpation. Forty-eight breast cancers (27%) were detected both by mammography and palpation. A total of 36 cases (21%) were detected by palpation alone and the remaining 23 cases (13%) were detected by participants or their private physicians in the intervals between screenings.

1. The capability of mammography in the detection of minimal breast cancers (MBCs).
2. The question of the sensitivity of mammography, as indicated by the frequency of interval cases.
3. The differential effectiveness of mammography versus palpation in diverse ethnic groups.
4. The possible contributions of mammographic screening to improved breast cancer survival.

Minimal Breast Cancers

Minimal breast cancers have been defined operationally by the national BCDDP Policy Review Cohort as *in situ* and infiltrating carcinomas measuring less than 1 cm in diameter.[2] As displayed in Table 1, Hawaii BCDDP recorded 73 breast cancers classifiable as minimal. This represents 40% of the total yield of the Hawaii screening project. Thirty (41%) of the 73 minimal breast cancers were detected in women younger than 50 years of age, a finding which is not statistically significantly different from results reported by other BCDDP centers.[3]

When modality of detection is considered, we find that 47 (64%) of the 73 minimal breast cancers recorded by the Hawaii BCDDP were found solely by mammography. Similar results have been reported by the Louisville BCDDP, where 61% of the minimal breast cancers were detected by mammography alone.[4] A further set of 12 minimal breast cancers was detected by mammography and palpation. In toto, 80% of all Hawaii BCDDP minimal breast cancers were detectable by mammography; mammography detected more than three quarters of minimal breast cancer in women both under 50 and over 50. Thus mammography has shown itself, in our data, to be a potent detector of the smallest cancers.

The distribution of detection modalities for cancers of various sizes and types is given in Table 2. Mammography appears to be relatively more successful than physical examination in detecting non-infiltrating cancers and cancers less than 1 cm in diameter. Mammography alone detected 29 (71%) of the 41 *in situ* cancers and 18 (56%) of infiltrating cancers smaller than 1 cm. Only 8 (11%) of the 73 cancers in both these categories were detected by palpation when mammographically negative and another 12 (16%) by mammography and palpation combined. As the size of the lesion increased, the possibility of palpating the cancer was enhanced.

For 108 cancers with diameters 1 cm or

TABLE 1. Minimal breast cancers detected in Hawaii BCDDP

			MBC: Pathology status			MBC: Detection modalities*			
	Detected cancers, no. (%)	MBC, no. (%)	In situ, no. (%)	Invasive, <1 cm, no. (%)	Positive axillary nodes no. (%)	MM+, Cl- no. (%)	MM+, Cl+ no. (%)	MM-, Cl+ no. (%)	Interval no. (%)
Age, Year									
35-49	68 (38%)	30 (41%)	17 (23%)	13 (18%)	0 (0%)	19 (26%)	3 (4%)	5 (7%)	3 (4%)
50-74	113 (62%)	43 (59%)	24 (33%)	19 (26%)	0 (0%)	28 (38%)	9 (12%)	3 (4%)	3 (4%)
Total project	181 (100%)	73 (100%)	41 (56%)	32 (44%)	0 (0%)	47 (64%)	12 (16%)	8 (11%)	6 (8%)

*MBC, minimal breast cancer; MM, mammogram; Cl , clinical examination

Now that the active screening phase has been completed, the Hawaii BCDDP is analyzing the detailed pathological data regarding the breast cancer lesions detected and studying the ethnographic patterns of incidence and detection. The present report focuses on four aspects of our findings from this new phase of the study:

From the Hawaii Breast Cancer Detection Demonstration Project.

The American Cancer Society supported the research for this paper under grant CCG 218.

Accepted for publication July 1984.

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TABLE 2. Breast cancers stratified by lesion size and modality findings

Detection modality	Non-infiltrating no. (%)	Infiltrating <1 cm. no. (%)	Infiltrating ≧1 cm. no. (%)	Size unspecified no.(%)	Total
Mammography alone	29 (71%)	18 (56%)	21 (24%)	6 (29%)	74 (41%)
Mammography and physical examination	7 (17%)	5 (16%)	30 (34%)	6 (29%)	48 (27%)
Physical examination only	4 (10%)	4 (13%)	19 (22%)	9 (43%)	36 (20%)
Interval cases	1 (2%)	5 (16%)	17 (20%)	0 (—)	23 (13%)
Total	41 (100%)	32 (101%)*	87 (100%)	21 (101%)*	181 (101%)*

*Rounding error

TABLE 3. Hawaii BCDDP: Interval breast cancers pathology status

				Invasive			
	Non-invasive	Micro-invasive	<.5 cm.	≧.5 cm. <1 cm.	≧1 cm.	Size unknown	Total
Age, Year							
35-49	1	1	0	1	9	0	12
50-74	0	1	0	2	8	0	11
Total	1	2	0	3	17	0	23

TABLE 4. Mode of detection by ethnic group

	MM+, Cl-* no. (%)	MM-, Cl+ no. (%)	MM+, Cl+ no. (%)	Interval no. (%)	Total no. (%)
Japanese	36 (53%)	11 (16%)	12 (18%)	9 (13%)	68 (100%)
Caucasian	22 (36%)	12 (19%)	21 (34%)	7 (11%)	62 (100%)
Chinese	9 (47%)	4 (21%)	3 (16%)	3 (16%)	19 (100%)
Hawaiian/ Part-Hawaiian	4 (20%)	6 (30%)	9 (45%)	1 (5%)	20 (100%)
Other	3 (25%)	3 (25%)	3 (25%)	3 (25%)	12 (100%)
All ethnic groups	74 (41%)	36 (20%)	48 (26%)	23 (13%)	181 (100%)

*MM, mammogram; Cl, clinical examination

larger, palpation alone or together with mammography detected 59% of lesions. In 28 of the larger cancers (26%) the lesion was detected by palpation alone, while mammographic findings were negative. Thus, mammography without palpation cannot be regarded as an adequate screen.

A retrospective review of individual pathological descriptions of the cancers larger than 1 cm which were undetected by mammography revealed sufficient individual variation in shape, surface, and location to explain why so high a proportion of the larger lesions were undetected by mammography. None of the 47 minimal breast cancers detected by mammography alone were found to have positive lymph node involvement. For this reason we may have some grounds for believing that mammographic screening can contribute to the earlier detection of cancers at a stage more amenable to appropriate intervention and increased probability of the control of the disease.

Interval Cases

Table 3 describes the pathology status of 23 breast cancers that were found by Hawaii BCDDP participants themselves, or by their physicians, in the intervals between annual screenings. The interval cancers were distributed equally among participants younger or older than 50, and 17 lesions exceeded 1 cm in diameter. Only 6 lesions could be classified as minimal breast cancers. In 18 cases the cancer was diagnosed within 12 months of a totally negative screening, including mammography. Of these 18 cases, 13 were found to be invasive and larger than 1 cm. Here again we see important holes in the mammographic screening net. Whether the interval cases represent particularly fast-growing cancers or the relative sensitivity of the screen, the significance of breast self-exam in detecting

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tumors is clearly evident from these findings.

Mode of Detection by Ethnic Group

Among Oriental women, mammography alone detected proportionately more breast cancers than among Caucasians and part-Hawaiians (see Table 4). Thirty-six (53%) of breast cancers detected in Japanese and 9 (47%) in Chinese were detected solely by mammography. Among part-Hawaiians, only 4 (20%) were detected at screening in the absence of a positive physical examination. While our sample is too small to allow statistical inferences, the findings suggest that palpation is critical for part-Hawaiians, whereas mammography alone yields nearly half of all positive screenings among Oriental women. Neither method is sensitive enough to be the sole screening modality. Combined mammography and palpation are necessary to raise the sensitivity of screening to the 87% level. But the differential efficacy of mammography and palpation in achieving this result among diverse ethnic groups warrants further study.

Breast Cancer Screening and Survival

Since the close of the active screening phase, the Hawaii BCDDP has been following morbidity and mortality events among the screening population. As of January 1984, 12 deaths due to breast cancer have been recorded among the 171 women whose breast cancers were detected or reported during the screening years. Of the 71 women whose breast cancers were detected by mammography alone, only 2 women (3%) have expired, both part-Hawaiian. Among the 35 women whose breast cancer was detected by palpation alone, there have been 2 deaths (6%). From the group of 22 women whose cancer was uncovered in the intervals between screenings, 2 women died of breast cancer (9%). Among 44 women whose breast cancers were positively detected both by mammography and palpation, 6 women have died (14%). The low mortality thus far among women whose cancers were detected by mammography alone may mean that mammographic screening can detect cancers small enough to have a significant impact on breast cancer mortality. The reduction in short-term mortality may also be attributable to detection at an earlier stage in the biological course of the disease.

While the BCDDP excluded all active breast cancer cases, some 178 women participated in the sample of 10,000 who had had a prior personal history of breast cancer. Of these, 23 died as a



Left to right: Audi 5000S Wagon, Porsche 944, Porsche 911 Carrera Targa, Porsche 911 Carrera Cabriolet, Audi 4000S, Porsche 911 Carrera Coupe, Porsche 928S, Audi 5000S.

result of cancer later traced to their original malignancy. Mortality among this group has been 13%. In 2 cases among the particularly high-risk group of patients with a known personal history of breast cancer, mammographic screening by the Hawaii BCDDP detected a new primary lesion in the remaining breast. In the remaining 21 deaths of women with a personal history of breast cancer, recurrence of the disease involved metastasis of the cancer to other body organs and therefore was not detected by the screening program.

Conclusion

Mammographic screening has the capability of detecting significant numbers of breast cancers that would not be detectable by other means. It is particularly effective in detecting small and probably early cancers. But it seems more effective among Orientals than among part-Hawaiians and Caucasians; and the narrowly focused single-tissue concern of mammographic screening is not designed to detect metastases of breast cancer to other organs among the high-risk group of prior breast cancer patients. Screening for breast cancer by mammography alone is less sensitive than when supplemented by palpation; and 13% of breast cancers at our BCDDP escaped detection by mammography and palpation combined.

Discontinuation of the BCDDP program has meant that some cancers have escaped early detection. However, it is not clear that any reasonable frequency of screening would be sufficient to detect all incident breast cancers. To evaluate the actual value of breast cancer screening requires a larger screening sample and use of sensitive statistical tests to control for a number of possible biases. Under a grant from the American Cancer Society we are now exploring this question, using data contributed by 5 collaborating BCDDP centers with a total of 50,000 women who have undergone periodic breast cancer screening. Our findings will be forthcoming in subsequent reports.

REFERENCES

1. Goodman M, Gilbert F, Mi M, et al.: Breast cancer screening in Hawaii 1974-1980. *Hawaii Medical Journal* 41:150, 1982.
2. Beahrs O, Shapiro S, Smart C, and McDivitt R: Pathology review of minimal breast cancers detected in BCDDP. *JNCI* 62:673, 1979.
3. Baker L: Breast cancer detection demonstration project: Five-year summary report. *CA* 32:194, 1982.
4. Bland K, Buchanan J, Mills D, et al.: Analysis of breast cancer screening in women younger than 50 years. *JAMA* 245:1037, 1981.



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Hyperthermia and Cancer Research

Arnold Feldman, Ph.D.* Honolulu

• *During the latter part of the 19th century and the early part of the 20th century there were scattered reports of tumor remission due to the induction of infection by pyrogenic bacteria, with concurrent elevation of body temperature, or by heat treatment using physical methods;[1-7] see reviews by Selawry et al.[8] and Nauts et al.[9]. This early work suggested the potential of hyperthermia, but technical problems involved in the localization of heat to specific tumor regions or the lack of reproducibility of the results hindered progress. Interest in hyperthermia was renewed in the 1960s due to the work of George Crile Jr.[10] and the Renato Cavaliere group.[11] It is currently undergoing rapid development as an experimental modality in tumor treatment by means of in vitro studies, in vivo experiments, and "Phase One" clinical trials for patients who have failed conventional therapy.*

Data from various studies have suggested several biological reasons for the success of hyperthermia.[12,13] First, neoplastic cells may be intrinsically more heat-sensitive than normal cells, though the evidence for this is mixed. Second, many tumors have a necrotic center and an actively-growing periphery. They contain cells that are hypoxic, nutrient-deficient, and are slightly acidic ($6.7 < pH < 7.0$). These conditions increase their sensitivity to heat compared to normal tissue. Third, tumor cells that are in the late S-phase of the cell cycle, when they are actively synthesizing DNA, are more heat-sensitive than in other parts of the cell cycle. Fourth, the primitive blood supply of many tumors impairs heat loss through convection; during treatment they will be hotter than the surrounding normal tissue. Also, heating may cause rapid destruction of tumor vasculature, which will increase this temperature differential and aid tumor necrosis.

Heat may interact synergistically with radiation because it can increase the cell's sensitivity to X-rays by reducing its ability to repair either sublethal damage or potentially lethal damage. Also, hypoxic cells and those in the late S-phase of the cell cycle, while radiation-resistant, are heat-sensitive.

Heat may interact synergistically with chemotherapy by either increasing drug uptake or enhancing drug sensitivity. It has been successfully used for perfusion of the extremities[14,15] to treat melanomas, soft tissue sarcomas, and osteogenic sarcomas.

A heat dose is specified by the tissue temperature and the length of the heating time, e.g. 43.5°C/30 min. Precise thermometry and accurate localization of the deposited heat energy is essential because once the threshold for injury to tissue is reached, an increase of 0.5°C in temperature or 20% in heating time can raise the probability of tissue damage from 0% to 100%.[16] There are many methods currently available for either whole-body[17-20] or localized heating. In whole-body heating the maximum core temperature that can be tolerated by the patient is 42°C. Thus longer heating times are required to achieve the same end-point in tissue damage, compared to localized heating where higher temperatures (up to 50°C) have been achieved. For many patients in Phase One clinical trials, these longer heating times are unacceptable, so the effectiveness of this type of treatment is reduced. Localized heating has been achieved by the use of circulating hot water,[21] ultrasound,[22] or electromagnetic energy.[23]

Mixed Evidence of Gain

Hyperthermia is mainly used, at present, in conjunction with radiation in clinical trials.[24,25] However, several facts must be remembered. First, it has not been shown that heat alone or combined with radiation will affect tumor tissue more than normal tissue, i.e. the evidence for a therapeutic gain is mixed. Second, when heat and radiation are combined, it is best to administer them simultaneously. Any delay decreases the effectiveness of the heat treatment. These protocols are often fractionated, and this may lead to the phenomenon of thermotolerance, i.e. an inadequate heat dose can protect tumor tissue from the effects of a later therapeutic heat dose. Thermotolerance is reduced, however, as the time between heatings is increased. It might be used to advantage if it could be localized only to normal tissue. Then the tumor region could be raised to a higher than usual temperature, and a therapeutic gain might be achieved with the normal tissue thus protected.

Many excellent books increase understanding of this rapidly growing field.[12,26-29] Recent clinical studies[30-32] show the current "state of the art." Advocates of hyperthermia are optimistic that the 1980s will be the decade in which it will achieve the status of an accepted modality, and many are confident that it will be used as part of a combination-of-modalities approach to tumor treatment.

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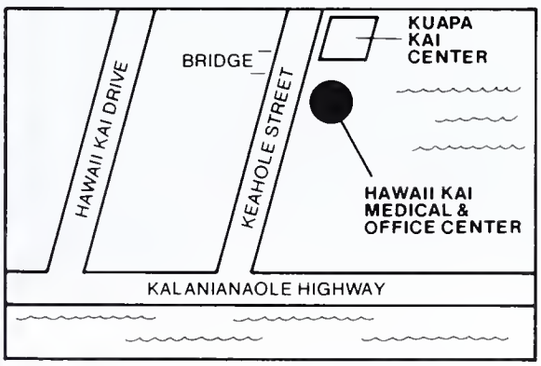
1. Busch W: Uber den Einfluss welche heftigere Erysipein—Zuweilig anf organisierte Neubildungen ausuben. Vrh. Naturhist. Preuse Rhein. Westphal 23:28, 1866.
2. Fehleisen R: Die Atiologie des Erysipels. T. Frischer Verlag Berlin (1883).
3. Coley WB: The treatment of malignant tumors by repeated inoculations of erysipelas with a report of 10 original cases. *Am. J. Med. Sci.* 105:488 (1893).
4. Bruns P: Die Heilwirleung des Erysipels auf Geschwulste. Beitr. Klin. Chir. 3:443, 1887.
5. Percy JF: Heat in the treatment of carcinomas of the uterus. *Surg. Gynec. Obstet.* 22:77, 1916.
6. Westermark N: The effect of heat on rat tumors. *Scand. Arch. Physiol.* 52:257, 1927.
7. Rohdenburg GL, Prime F: Effect of combined radiation and heat on neoplasms. *Arch. Surg.* (Chicago) 2:116, 1921.
8. Selawry OS, Carlson JC, Moore GE: Tumor response to ionizing rays at elevated temperatures: A review and discussion. *Amer. J. Roentgenol.* 80:833, 1958.
9. Nauts HC, Fowler GA, Bogatko FH: A review of the influence of bacterial infections and bacterial products (Coley's toxin) on malignant tumors in men. *Acta. Med. Scand.* Suppl. 276:1, 1953.
10. Crile G: The effects of heat and radiation of cancers implanted on the feet of mice. *Cancer Res.* 23:372, 1963.
11. Cavaliere R, Ciocatto EC, Giovanella BC, et al.: Selective heat sensitivity of cancer cells. *Cancer* (Phila.) 20:1351, 1967.
12. Hahn GW: Hyperthermia and Cancer. Plenum Pub. Co. New York, N.Y., 1982.
13. Field SB, Bleehan NM: Hyperthermia in the treatment of cancer. *Cancer Treat. Rev.* 6:63, 1979.
14. Stehlin J, Giovanella B, de Ipolyi P, Anderson R: Results of 11 years' experience with heated profusion for melanoma of the extremities. *Cancer Res.* 39:2255, 1979.
15. Cavaliere R, Morica G, Caputo A: Regional hyperthermia by perfusion. Proc. of the Int. Sym. on Cancer Ther. by Hyper. and Rad. Baltimore, Md. Amer. College of Radiol. Press 1976.
16. Moritz AR, Hendriques FC: Studies of thermal injury. *Amer. J. Pathol.* 23:695, 1947.
17. Pettigrew R, Galt J, Ludgate C, Smith A: Clinical effects of whole-body hyperthermia in advanced malignancy. *Brit. J. Med.* 4:679, 1974.
18. Larkin J: A clinical investigation of total-body hyperthermia as cancer therapy. *Cancer Res.* 39:2252, 1979.
19. Bull J: Summary of the informal discussion of animal models and clinical studies. *Cancer Res.* 39:2262, 1979.
20. Parks L, Minaberry D, Smith D, Neely W: Treatment of far-advanced bronchogenic carcinoma by extracorporeally induced systemic hyperthermia. *J. Thorac. Cardiovasc. Surg.* 78:883, 1979.
21. Hall RR, Schade ROK, Swinney J: Effects of hyperthermia on bladder cancer. *Brit. Med. J.* 2:593, 1974.
22. Hahn GM, Marmor JB, Pounds DW: Induction of hyperthermia by ultrasound. *Bull. Cancer* 68:249, 1981.
23. Samaras GM, Cheung AY: Microwave hyperthermia for cancer therapy. Critical Rev. in Bioeng. C.R.C. Press, Boca Raton, Fla. 1981.
24. Overgaard J: Fractionated radiation and hyperthermia. Experimental and clinical studies. *Cancer* 48:1116, 1981.
25. Suit HD, Gerweck LE: Potential for hyperthermia and radiation therapy. *Cancer Res.* 39:2290, 1979.
26. Storm FK (ed.): Hyperthermia in Cancer Therapy. G.K. Hall Med. Pub. Boston, Mass. 1983.
27. Dethlefsen LA, Dewey WC (eds.): Proceedings of the Third International Symposium on Cancer Therapy by Hyperthermia, Drugs, and radiation. J. Natl. Cancer Inst., Monograph 61, 1982.
28. Hornback NB: Hyperthermia and cancer. Human Clinical Trials, C.R.C. Press, Boca Raton, Fla. 1984.
29. Streffer C, et al. (eds.): Cancer therapy by hyperthermia and radiation. Urban and Schwarzemberg, Baltimore, Md. 1978.
30. Perez CA, Nussbaum G, Emami B, Von Gerichten D: Clinical results of irradiation combined with local hyperthermia. *Cancer* 52:1597, 1983.
31. Rege VB, Leone LA, Soderberg CH, et al: Hyperthermia adjuvant perfusion chemotherapy for stage I malignant melanoma of the extremity with literature review. *Cancer* 52:2033, 1983.
32. Manning MR, Cetas TC, Miller RC, et al.: Clinical hyperthermia: results of a phase I trial employing hyperthermia alone or in combination with external beam or interstitial radiotherapy. *Cancer* 49:205, 1982.

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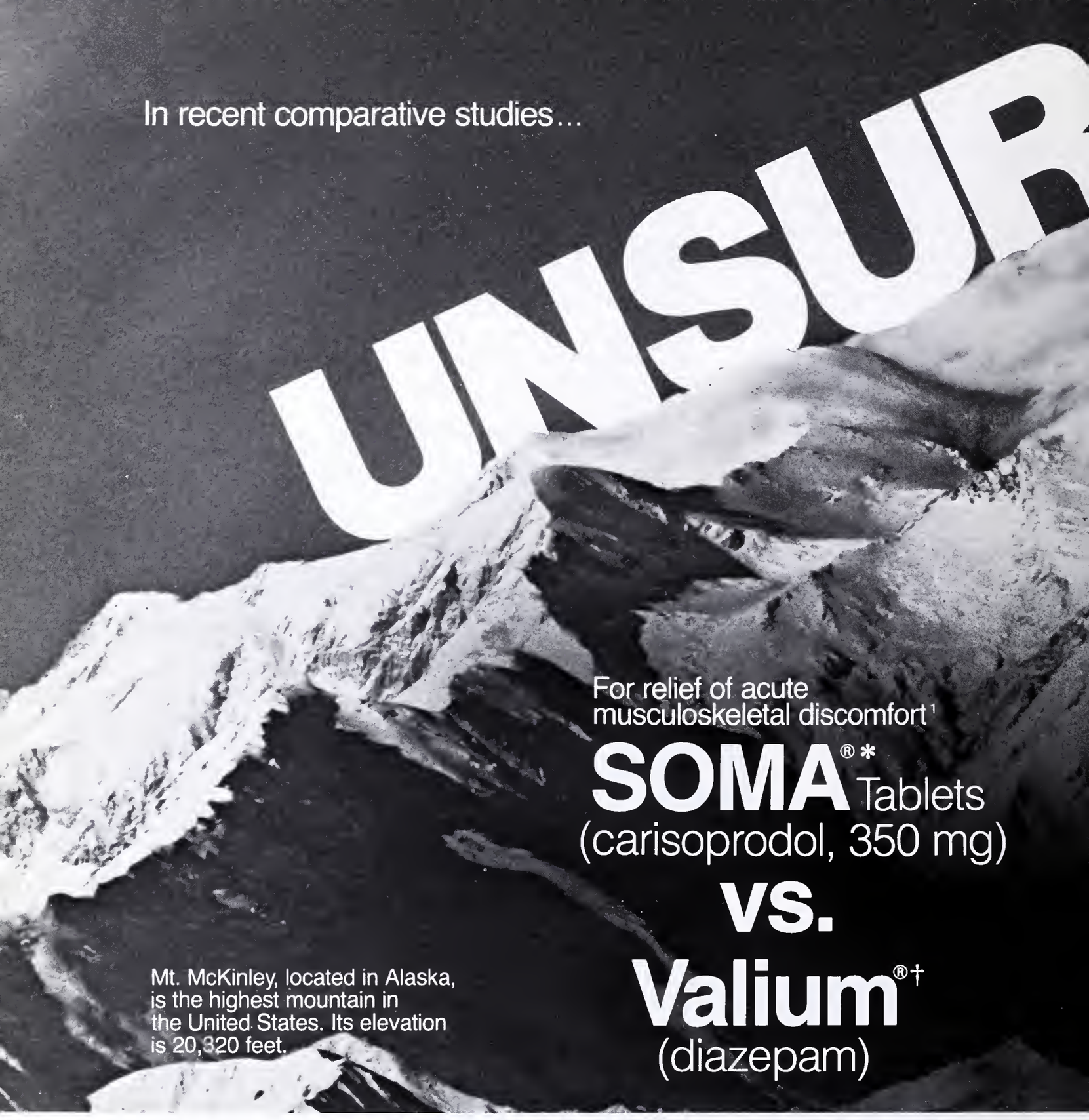
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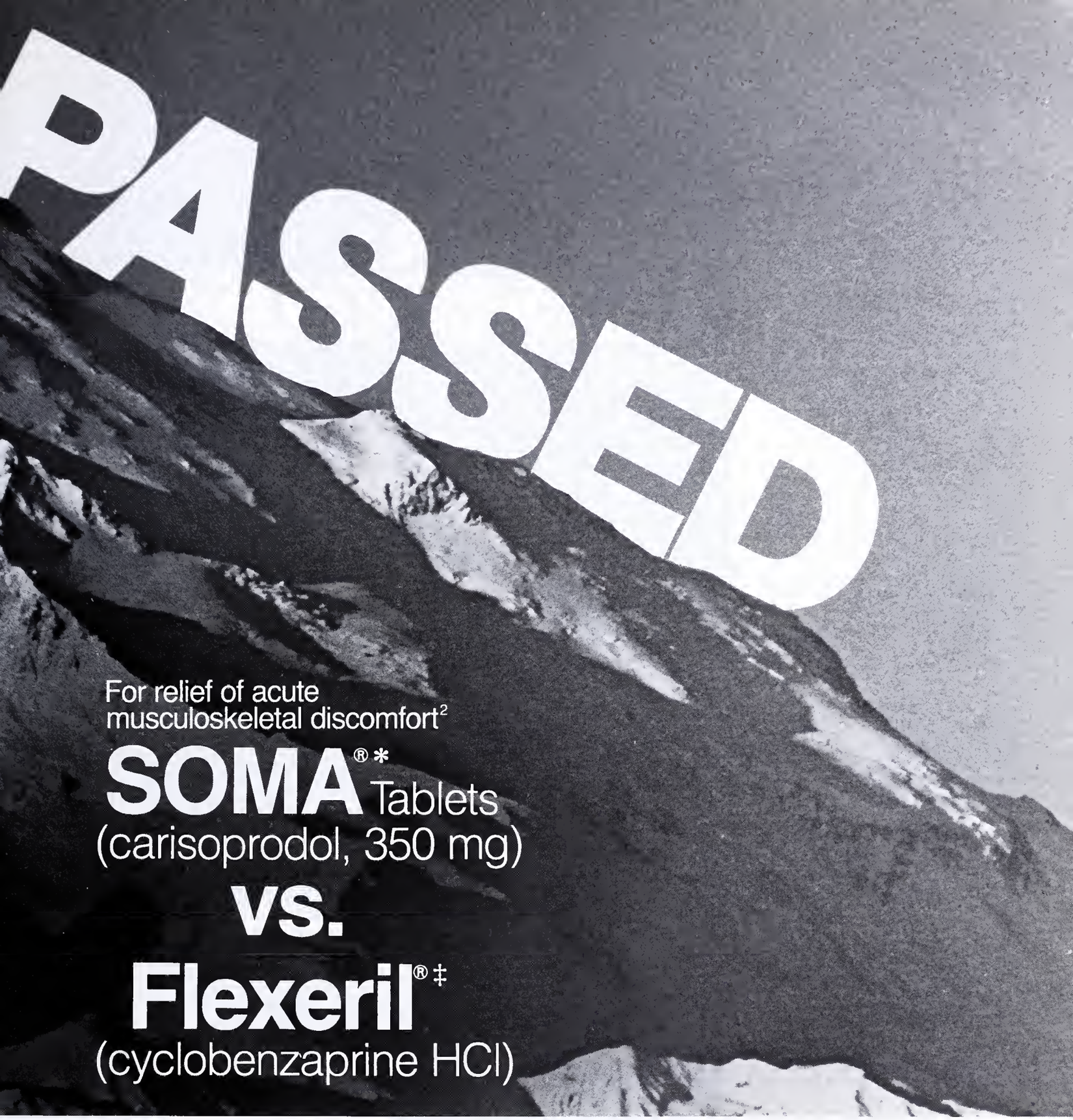
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References: 1. Boyles WF, Glassman JM, Soyka JP: Management of acute musculoskeletal conditions: thoracolumbar strain or sprain. *Today's Therapeutic Trends*, vol. 1(1), 1983. A controlled double-blind study of 71 patients. **2.** Rollings HE, Glassman JM, Soyka JP: Management of acute musculoskeletal conditions—thoracolumbar strain or sprain: A double-blind evaluation comparing the efficacy and safety of carisoprodol with cyclobenzaprine hydrochloride. *Curr Ther Res*, vol. 34, Dec. 1983. A controlled double-blind study of 58 patients.

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On reviewing the articles in this issue, it occurred to me that a word on how things were two decades ago might help to bring the picture into focus.

Serving in the Hawaii State Department of Health from 1961 until 1964, specifically in the position designated (in capital letters) "Cancer Control Physician," I had an opportunity to view the field of cancer in Hawaii from a perspective that might be of some interest to those who come upon this issue of the JOURNAL.

The Hawaii Tumor Registry is one of the oldest continuing tumor registries in the United States, exceeded in age, as far as I can recall, only by the state of Connecticut's tumor registry. I had the pleasure of helping to keep it thriving during my tenure at the health department, and to serve with the Hawaii Cancer Commission, which governs the work of the Tumor Registry.

The Cancer Commission

Back in the early '60s, the Cancer Commission, which now has 12 members, had just 6 members, including Dr. Grover H. Batten, Dr. Shoyei Yamauchi, and Dr. Norman Sloan, who was my beloved "boss" and mentor at the health department's adult health branch and who is perhaps better known for his long and loyal service in the treatment of leprosy at Kalaupapa and later as a consultant in the U.S. Trust Territory, where he spent his "retirement" years, in the evaluation of sulfones.

Organized in 1959

The first Hawaii Cancer Commission was organized in 1959 under the aegis of the Hawaii Medical Association and, spear-headed by the then HMA representatives, Grover Batten and Shoyei Yamauchi, had four other members. Representing the Cancer Society were Dr. Irv Tilden, pathologist for the Straub Clinic, and Harold Civin, pathologist at Queen's, and representing the Department of Health, Walter B. Quisenberry and Norman Sloan. This body endured intact until 1962, when Grover Batten and Clarence Wyatt became the HMA reps, Tilden and Civin continued for HCS/ACS, and Norman Sloan and "yours truly" held down the slots for the health department.

UH Joins the Commission

In 1972, two University of Hawaii representatives were added to the Cancer Commission, when the HMA executed a contract with the Research Corporation of the university, and in 1973 the commission was further expanded, until there are now a grand total of 12 physician members.

The current commission consists of Chairman James Lumeng and members Russell Hicks, Carl Boyer, Thomas Burch (one of our authors in this issue), Reuben Guerrero, Thomas Hall (our guest editor for this special cancer issue of the JOURNAL), Reginald Ho, Laurence Kolonel (who has published previously in this JOURNAL), Verne Waite, Drake Will, and *ex officio,* the president and president-elect of the HMA, Drs. Sakae Uehara and William Hindle this past term. Lay members of the commission recently have been Gladys Brandt, who I met more than 20 years ago on Kauai when she was a Department of Education official there, and Eddie Tangen. Becky Kendro has been the HMA staff representative to the commission and Ella Kawamoto has been recording secretary.

The major duty of the Hawaii Cancer Commission was, since its inception, the governance of the Hawaii Tumor Registry. Its other activities include review of Tumor Registry projects to ensure protection of patient/physician confidentiality, and to oversee interferon funds from the State of Hawaii under a health department subcontract. Lately the Tumor Registry has provided data to the Cancer Research Center of Hawaii.

Hawaii Tumor Registry

The Hawaii Tumor Registry has had several homes over the past 20 years: first, within the Department of Health, then in 1974, an office in the Bishop Trust building; in 1976, it moved to the HMA building on Ward Avenue; then, in April 1983, to its present home in the Cancer Research Center of Hawaii at 1236 Lauhala Street.

Thanks, Tom!

Dr. Tom Hall, who took on the task of gathering the articles for this issue what seems like a year ago, is a medical oncologist who came to Hawaii in the latter part of the last decade after a number of distinguished positions in teaching and cancer research on both coasts of the continent. He now serves as principal investigator for the Control, Education, and Community Outreach Program at the Cancer Research Center on Lauhala Street, which brings us back to the beginning of this discourse.

Doris R. Jasinski, M.D., M.P.H.
Managing Editor

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The Natural Killer Cell-Interferon System in Human Carcinoma—

Its Relation to Interferon Cancer Treatment Trials

Nathaniel P.H. Ching, M.D.;*† Clara Y. Ching, Ph.D.;§ Edward L.S. Jim, M.D.;* Kevin K. Loh, M.D.;‡ Noboru Oishi, M.D.;‡§ and Donald W.S. Yim, M.D.,** Honolulu.

• *Natural killer cell (NK) functions as a immunosurveillance mechanism against virus infection and cancer was assessed in patients with selected malignancies and correlated with the stage of the clinical disease. The nature of the relationship of the effector NK cell to ^{51}Chromium-labeled targets, herpes simplex virus Type 1 infected fibroblasts [NK(HSV-1)], and chronic myeloid leukemia cells [NK(K562)] was examined.*

Deficient NK(HSV-1) function has been observed in patients with recurrent severe herpes virus infection,[1,2] chronic cytomegalovirus (CMV) infection,[3] and in patients with advanced cancer.[4] Patients with congenital immunodeficiency, including severe combined immunodeficiency (SCID) and Wiskott-Aldrich syndrome with its high risk for tumors, have low NK(HSV-1) activity.[5]

Ching and associates[3,6] demonstrated enhancement of NK activity in 2 patients with CMV infections and low NK function, receiving interferon (IFN) therapy, and by the *in vitro* treatment of lymphocytes with human leucocyte interferon-alpha. Augmentation *in vitro* with IFN-alpha was examined in cancer patients to delineate those patients or clinical stage that may be amenable to treatment with interferon preparations. Preliminary results observed in the Hawaii segment of the Nasopharyngeal Carcinoma Interferon Trials, in collaboration with Dr. Thomas Merigan of Stanford University Medical School, will be reported.

Materials and Methods

Selection of patient population and controls. Patients undergoing preoperative preparation for surgical treatment of lung lesions and head-neck tumors were asked to volunteer for these studies and informed consent was obtained. A group of patients with advanced lung carcinoma and gastrointestinal carcinoma who were to undergo chemotherapy treatment were similarly studied. Blood was drawn in the baseline situation and about 1 month after their surgical procedures NK activity to HSV-1 infected cells and K562 leukemia cell targets, as well as lymphocyte counts, were analyzed. Sequential measurements beyond the 1 month period were obtained in 4 patients with carcinoma of the lung and 2 patients with head-neck tumors. Ten patients with Stage I or II and 7 patients with Stage III or IV carcinoma of the lung, 9 patients with surgically resectable carcinomas of the head-neck region, and 7 patients with gastro-intestinal carcinomas who were to be treated with chemotherapy were studied. Control levels of NK activity were similarly studied in random volunteers of various age and ethnic backgrounds. A longitudinal study of NK(HSV-1) activity was carried out in 2 seropositive and 1-seronegative (HSV-1) individuals over a 22-month period.

Assay for NK activity. Natural killer cell activity was assayed as described by Ching and Lopez.[1] Peripheral blood mononuclear cells were separated by ficoll-hypaque density gradient centrifugation and used at varying effector: target ratios (E:T) of 100:1 to 3:1 in triplicate. Foreskin fibroblast cells (FS) were infected with herpes simplex virus Type 1 (HSV-1), ^{51}Cr-labeled, and used at $5x10^3$ cells per well. NK activity was similarly measured against ^{51}Cr-labeled K562 cells. Cytotoxicity was calculated according to the standard formula for ^{51}Cr release (%). Non-parametric statistical testing of the difference in NK activity between groups was performed utilizing the Wilcoxon-Mann-Whitney rank-sum test.

Results

Natural killer cell function in control population. Normal individuals had the following values (Mean ± S.D.) at the effector: target ratio of 50:1: NK(K562) = 53% ± 14(N = 45), NK(HSV-1) = 45% ± 14(N = 50), and NK(FS4) = 12% ± 9(N = 50). All assays for NK activity in the 3 control subjects over the 22-month period fell within the

From the departments of Surgery* and Medicine,‡ John A. Burns School of Medicine, The Cancer Research Center of Hawaii,§ the Department of Surgery, St. Francis Hospital,† and the Head-Neck Service of Tripler Army Medical Center.**

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Address correspondence and request for reprints to: Nathaniel Ching, M.D., Department of Surgery, St. Francis Hospital, 2230 Liliha Street, Honolulu, Hawaii 96817.

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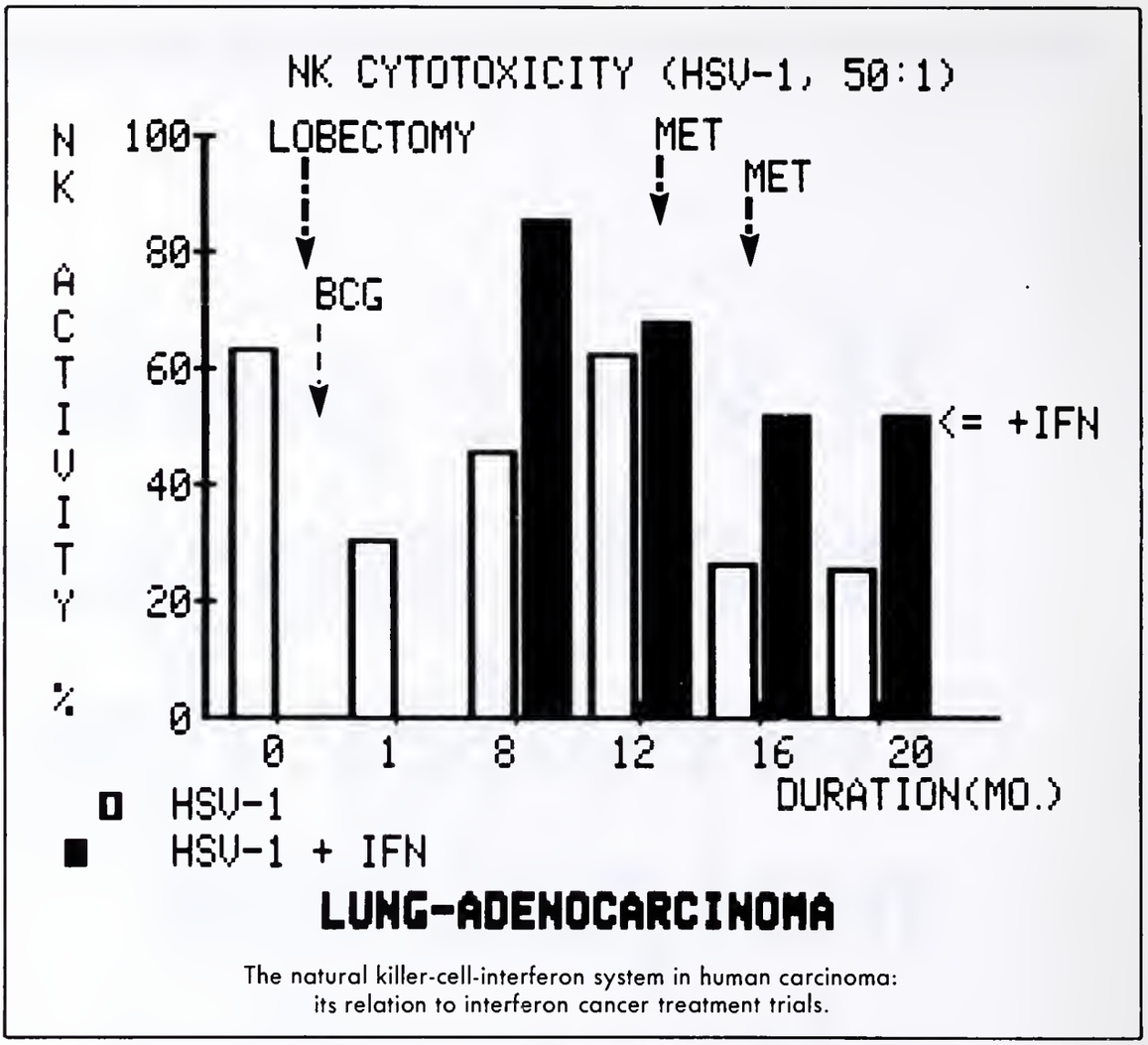
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The natural killer-cell-interferon system in human carcinoma: its relation to interferon cancer treatment trials.

LEGEND

Figure. NK cytotoxicity (HSV-1) in a patient with adenocarcinoma of lung. NK activity (open bars) decreased 1 month after lobectomy and BCG therapy, but returned to normal levels at 8 and 12 months. However, NK activity again decreased after the patient twice developed metastases to the cerebrum. *In vitro* treatment of lymphocytes with interferon (IFN) produced significant enhancement of NK activity (solid bars).

normal range measured in the controls.

Natural killer cell function in cancer patients. NK function to the two different targets, NK(HSV-1) and NK(K562) showed no significant differences between the controls or patients with carcinoma of the lung, Stage I or II ($53\% \pm 14$ and $47\% \pm 7$), Stage III or IV ($39\% \pm 25$ and $45\% \pm 18$), or patients with advanced gastrointestinal carcinoma ($48\% \pm 15$ and $34\% \pm 18$). Patients with head-neck tumors, however, did show significantly reduced NK activity to both targets, NK(HSV-1) $25\% \pm 10 (P < .001)$ and NK(K562) $34\% \pm 19 (P < .01)$. Although the patients with cancer of the lung had normal levels of NK activity before surgery, they developed significant depression of their NK to HSV-1 infected target cells only in the immediate post-op period, $53\% \pm 14$ before to $24\% \pm 11$ after surgery, $(P < .05)$. The patients with head-neck tumors had persistently decreased levels in the post-operative examination period. When we were able to follow the cancer of the lung patients beyond the early post-op period, NK activity returned to normal levels. However, with the recurrence of the tumor and distant metastases, NK levels decreased again (see Figure).

In Hawaii, in collaboration with Drs. Thomas Merigan and Charlotte Jacobs of Stanford University Medical School, a Phase II interferon protocol, utilizing 10 million units of Cantell human leukocyte interferon-alpha daily for 30 days, is available for patients with recurrent nasopharyngeal carcinoma.

In our preliminary study, we found that this interferon dose resulted in lower NK activity, although NK activity initially showed some augmentation. However, when interferon was discontinued in 1 of the patients, NK activity increased to control levels. NK activity was observed, at some examination periods, to be augmented by the *in vitro* treatment of lymphocytes with interferon.

Discussion

Natural killer cells are a recently discovered subset of lymphoid cells that are present in most normal individuals and in a range of mammalian and avian species. From studies in patients with known deficiencies in the immune system, Lopez and associates have reported that NK(HSV-1) function is derived from the bone marrow stem cells and is associated with graft versus host disease following bone marrow transplantation.[5,7] These cells may play a role in natural host resistance against infectious diseases and cancer because their cytotoxicity is spontaneous, i.e. they do not require prior sensitization to an antigen in contrast to the activity of lymphoid T-and B-cells.[8] Other groups have previously also measured decreased NK cytotoxicity in patients with advanced or disseminated disease. Monitoring of NK activity would allow us to determine the extent of tumor burden or stage of the disease or indicate recurrence.

In 1982, the Hawaii State Legislature passed Act 252 (Senate Bill 2978), sponsored by Senator Duke Kawasaki, providing a grant-in-aid to the Hawaii Cancer Commission of the Hawaii Medical Association, for the research and development of a clinical interferon-biological response modifier program and for the use of biological response modifiers as therapeutic modalities. Interferon at present is still in Phase I and II trials. These preliminary studies initiate the State of Hawaii's participation in national and international research on the treatment of patients with interferon. The changes in NK activity and the *in vitro* enhancement of NK activity will be studied in future clinical trials and related to the response rate of the tumors.

Herberman et al. have observed depression in NK activity in 30% of patients treated with IFN and he maintains that optimal immunomodulatory effects in NK activity secondary to IFN administration must be provided.[9,10,11] The Hawaii Cancer Commission has under consideration clinical trials utilizing human leukocyte-alpha IFN in recurrent nasopharyngeal, breast, renal, and head-neck carcinomas and non-Hodgkin's

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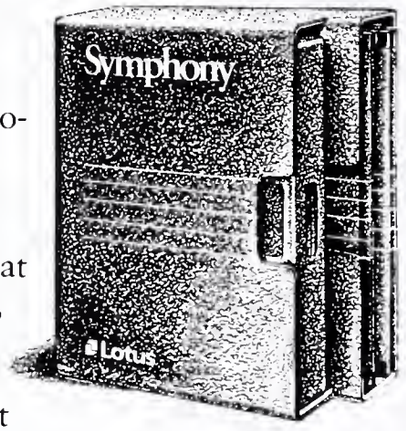
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lymphoma (Swedish Red Cross and Warner-Lambert, Principal Investigator Nathaniel Ching), gamma IFN in recurrent non-Hodgkin's lymphoma (Immuno-Modulator Laboratories, Principal Investigator Nathaniel Ching), and leukocyte-alpha 2 IFN in multiple myeloma, lymphoma, and renal carcinoma (Schering-Plough, Principal Investigator Noburu Oishi). Thymosin, a biological response modifier derived from the thymus, will be utilized as an adjuvant to patients receiving radiotherapy for carcinoma of the lung (Principal Investigator Noboru Oishi).

ACKNOWLEDGEMENT

Interferon for the treatment of nasopharyngeal carcinoma was provided by the American Cancer Society, Principal Investigator Dr. Thomas C. Merigan, and Co-Investigator Dr. Charlotte Jacobs, Stanford University Medical School, Palto Alto, Calif.

REFERENCES

1. Ching C, Lopez C: Natural kill of HSV-1 infected target cells: Normal responses and influence of antiviral antibody. *Infect. Immun.* 26:49-56, 1979.
2. Lopez C, Kirkpatrick D, Read SE, Fitzgerald A, Pitt J, Pahwa S, Ching CY, Smithwick EM: Correlation between low natural killing of fibroblasts infected with herpes simplex virus Type 1 and susceptibility to herpes-virus infections. *J Infect. Dis.* 147:1030-1035, 1983.
3. Ching C, Kirkpatrick D, Pahwa S, O'Reilly RJ, Miller D, Smithwick B, Good RA, Lopez C: *In vivo* augmentation by interferon of human natural killer cell function, NK(HSV-1) in two patients with chronic virus infections. Proc. 2nd International Workshop on Interferon, 1979.
4. Kadish AS, Doyle AT, Steinhauer EH, Ghossein NA: Natural cytotoxicity and interferon production in human cancer: Deficient natural killer activity and normal interferon production in patients with advanced disease. *J. Immunol.* 127:1817-1822, 1981.
5. Lopez C, Kirkpatrick D, Fitzgerald PA, Ching CY, Pahwa RN, Good RA, Smithwick EM: Studies of the cell lineage of the effector cells which spontaneously lyse HSV-1 infected fibroblasts NK(HSV-1). *J. Immunol.* 129:824-828, 1982.
6. Pahwa S, Kirkpatrick D, Ching C, Lopez C, Pahwa R, Smithwick E, O'Reilly R, August C, Pasquariello P, Good RA: Persistent cytomegalovirus infection: Association with profound immunodeficiency and treatment with interferon. *Clin. Immuno. Immunopath.* 28:77-89, 1983.
7. Lopez C, Kirkpatrick D, Sorell M, O'Reilly RJ, Ching C: Association between pre-transplant natural kill and graft versus host disease following stem cell transplantation. *Lancet* 2:1103-1107, 1979.
8. Herberman RB, Ortaldo JR: Natural killer cells: Their role in defenses against disease. *Science* 214:24-30, 1981.
9. Herberman RB, Thurman GB: Summary of approaches to the immunological monitoring of cancer patients treated with natural or recombinant interferons. *J. Biol. Response Modifiers,* in press.
10. Herberman RB, Ortaldo JR, Mantovani A, Hobbs DS, Kung H, Pestka S: Effect of human recombinant interferon on cytotoxic activity of natural killer (NK) cells and monocytes. *Cellular Immunology,* 67:160-167, 1982.
11. Maluish AE, Ortaldo JR, Conlon JC, Sherwin SA, Leavitt R, Strong DM, Weirnick P, Oldham RK, Herberman RB: Depression of natural killer cytotoxicity after *in vivo* administration of recombinant leukocyte interferon. *J. Immunol.* 131:503-507, 1983.

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Human Tumor Stem-Cell Clonogenic Assay—Another Failed Cancer Fad?

Thomas C. Hall, M.D., Honolulu

• *Medical care funds are shrinking. DRGs constrain the use of ineffective tests. Cancer control evaluates the relevance of laboratory research to patient care. Our group at the Hawaii Cancer Research Center was asked to analyze the human stem-cell clonogenic assay test for a session of the XIII International Cancer Congress. The results are relevant to Hawaii, where the test may become commercially available.*[1,2,3]

Various tests to predict sensitivity of human cancers to chemotherapy have been proposed for 30 years; none have succeeded. Previous tests have utilized cell lines, fresh explants on glass, cellophane, sponges, and semi-solid media, immature or irradiated rodents, and hamster cheek pouches. Test endpoints have included numbers of cells, uptake of dyes, and tumor nucleic acid synthesis. Recent tests have emphasized soft agar (after this system was devised to grow normal stem cells) and a rodent subrenal capsule assay. Large-scale studies supported by the National Cancer Institute now are looking at these tests, but reports from controlled trials are not yet available.

Unsolved Problems

After a number of enthusiastic but uncontrolled reports of human tumor stem-cell clonogenic (HTSCC) assays employing soft agar, a number of problems have been identified which remain unsolved. Because of these problems, the soft agar assay seems unsuitable for clinical application at this time, and much more research needs to be done by highly specialized cell biologists. Some of the problems which have arisen are:

1. Narrow spectrum: Solid tumors grow poorly on soft agar HTSCC assays (less than 40% of the time); only effusion cells, leukemia cells, and testicular tumor cells grow regularly. Fewer than 40% of these produce enough colonies for analysis. Even with the processing of many specimens, insufficient evaluable colonies develop, and large day-to-day variations result. Growth rates decrease with the time that elapses from removal of the tumor to laboratory processing.

2. Primary vs. metastasis: No correlation exists between responses of primary tumors and their metastases. Clinically, chemotherapy is usually reserved for metastases, but the test itself involves the primary tumors. Thus data is produced which is possibly irrelevant to the clinical response and care of the patient.

3. Variability: There is no uniformity in results of HTSCC assays obtained on similar tumors by various laboratories or in one laboratory at various times. The effects of different media, temperature, storage, and handling are not known or standardized.

4. Reagents: Components such as DEAE-dextran, thought to be essential in one laboratory, are reported as toxic in another. Similarly, anoxia is felt to be beneficial by some researchers and toxic by others. Finally, ascitic fluid has been suggested as both a stimulant and an inhibitor.[4]

5. Intrinsic growth: Tumors which grow poorly in the absence of treatment in vitro correlate with a good response clinically. This suggests that growth potential may be as predictive of a response as the whole HTSCC assay test.[5,6]

6. Isolation procedures: Single-cell suspensions are involved, requiring violent disruption of solid tumors, with resultant cell death and increased membrane permeability; the in-vitro situation is thus unlike the clinical situation. Clumps of debris and dying cells require human inspection and assessment to be identified; expensive optical scanning devices may be unreliable and misleading.

7. Clonogenicity: Within a short time, cells reaggregate. Thus, what is considered as a "clonogenic" colony often is not, containing heterogeneously reaggregated cells, with potentially variable drug sensitivities.

8. Tumor vs. fibroblasts: Many cell clumps are of fibroblastic—not tumor—origin. Distinction of fibroblasts from tumor cells may be possible visually, but not with an optical scanning machine. Tumor markers and chromosome tests might, at great cost, help distinguish cancers; however, this research is just beginning, and most cancers do not have markers.

9. Delay time: Three weeks are needed for the HTSCC assay. Since more than 50% of tumors don't grow, delay in treatment is inevitable for the patients involved.

10. Drugs: Many useful drugs do not primarily inhibit cell replication. Drugs such as corticoids, sex steroids, and asparaginase don't screen well in soft agar. Other drugs need host activation (e.g. DTIC, cyclophosphamide by liver), and so cannot be screened. Inexplicably, some antimetabolites cannot be tested by this method.

11. Dose response: Clinical drug levels rise and fall in blood and cells, with half times of minutes to days. The HTSCC assay uses a few fixed concentrations for one hour, thus not replicating clinical practice.

12. Drug combinations: Most patients receive combination therapies. Such stud-

From the Control Education, and Outreach Unit, Cancer Research Center of Hawaii, and departments of Medicine and Pharmacology, University of Hawaii.

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ies are not yet feasible by this soft agar test.

13. Host metabolism: The patient's liver, kidney, and lung may act on various drugs in different ways, e.g.: activate (cytoxan, procarbazine); retain (estrogen); detoxify (BCNU, DTIC, FU); or excrete (MTX, Bleomycin). Thus, the host's metabolism contributes to both effectiveness or toxicity of various drugs.[7] Such effects cannot be easily measured by this HTSCC assay since no host tissue is present; to obtain such host tissue might require special biopsies and patient consent.

14. Clinical toxicity: Toxicity to lung, heart, kidney, skin, and marrow limits drug usefulness. The ratio of antitumor benefit to host toxicity is not measured by the soft agar test.

15. Expense: A single HTSCC assay costs in the range of $300-$500 when done on tissue removed from the primary tumor. Only a quarter of such explants will result in useful information; i.e., about $1,200-$2,000 costs arise per analyzable test, from which the data will commonly not be helpful. The DRG system would not readily allow for such an expenditure.

16. Psychologic expectations: Commercialization of a test implies a promise of usefulness. In the case of frequent test failures, conditions may exist for psychological trauma to both physician and patient. If a drug were to be selected from the HTSCC assay test, based on drug changes in fibroblasts, and was then found to be clinically ineffective, toxic, or to cause a delay in treatment, medicolegal problems could easily arise.

17. Trial of conventional drugs: There has been no extensive evaluation of the soft agar HTSCC system clinically. Most reports state that the test confirms the effect of the usual clinical regimens in tumors that will grow; e.g., alkylating agents against ovarian cancers and myelomas. The test may confirm drugs known to be ineffective already; e.g., antipyrimidines against sarcomas. Occasionally, the test has predicted response to an experimental agent. However, it overpredicted the sensitivity of colon tumors to 5-fluorouracil. On the other hand, it has not been shown to have been effective where it might have been most helpful; i.e., in selecting drugs for patients who failed on conventional first therapies.[8,9] A very important trial needs yet to be undertaken: that of testing for false negatives by using negative-test drugs to treat patients.

18. Trials of new drugs: Large-scale results on National Cancer Institute trials have yet to be reported. However, these will depend on the fact that correlation can be made only on the 25% of tumors which grew; even a 75% accuracy for such tumors leaves most clinical needs unmet. Several new drug predictions have been made in recent years which were disappointing: interferon was re-

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ported in 1981 to be the most effective agent ever screened, a prediction which has not held up. Later, the same investigators reported that interferon stimulated growth of tumor cells![10] Renal cell cancer was predicted to be highly responsive to bisantrene, but this has not been confirmed clinically. The HTSCC assay test ranked 4' deoxy dexorubicin as giving 100% response in myelogenous leukemias, 60% in melanoma, 50% in stomach, and 40% in ovarian cancers. Further, aclacinomycin and marcellomycin were deemed superior to adriamycin. Confirmation of these unusual predictions could validate the test, but to date data are non-confirmatory.

Alternative Tests

The rat subrenal capsule assay appears to have all of the strengths and few of the drawbacks of the soft agar assay, and seems cheaper and faster. Inhibition of DNA synthesis or radioactive sulfate incorporation may give a better and faster end-point. Other tests are being developed for frozen tumors.

Conclusion

The human tumor stem-cell clonogenic assay is an unproven research concept of little clinical applicability at present. Tumor growth, pharmacology, variability, reliability, reproduceability, cost effectiveness, and medicolegal problems have not been clarified. Optical scanning "automation" has produced more problems than solutions. Further research on improved alternates is needed.[11,12]

REFERENCES

1. Selby P, Buick RN, and Tannock I: A critical appraisal of the human tumor stem-cell assay. *New Eng. J. Med.* 308:129-134, 1983.
2. Salmon SE, Hamburger AW, Soehnlen BS: Quantitation of differential sensitivity of human tumor-stem cells to anticancer drugs. *New Eng. J. Med.* 298:1321-1327, 1978.
3. Bogden A and Hall T: "Human Tumor Screens," Session PPS-75, Proc. XIII International Cancer Congress, 1982.
4. Uitendaal MP, Hubers HA, McVie JG, and Pinedo HM: Human tumor clonogenicity in agar is improved by cell-free ascites. *Br. J. Cancer* 48:55-59, 1983.
5. Browman G, Goldberg J, Gottlieb AJ et al.: The clonogenic assay as a reproducible in-vitro system to study predictive parameters of treatment and outcome in acute non lymphoblastic leukemia. *Am. J. Hem.* 15:227-235, 1983.
6. Hug V, Thames H, Johnston D, Blumenschein G, Drewinko B, and Spitzer G: Predictive value of in-vitro growth for response to hormones of patients with estrogen receptor positive breast tumors. *Breast Cancer Res. Treat.* 3:319, 1983.
7. Alley MC, Powis G, Appel PL, Kooistra KL, and Leiber MM: Activation and inactivation of cancer chemotherapeutic agents by rat hepatocytes co-cultured with human tumor cell lines. *Cancer Res.* 44:549-556, 1984.
8. Greenberg BR and Salmon SE: Human tumor clonogenic assay in patients with unknown primary carcinomas. *J. Clin. Oncol.* 2:46-50, 1984.
9. Von Hoff DD, Caspar J, Bradley E, Sandbach J, Jones D, and Makuch R: Association between human tumor colony-forming assay results and response of an individual patient's tumor to chemotherapy. *Am. J. Med.* 70:1027-1032, 1981.
10. Ludwig CU, Durie BG, Salmon SE, and Moon TE: Tumor growth stimulation in vitro by interferons. *Eur. J. Cancer Clin. Oncol.* 19: 1625-1632, 1983.
11. Hager T: Cancer drug sensitivity test has problems. *JAMA* 248:3079, 3083-3084, 1982.
12. Lieber MM and Kovach JS: Soft agar colony formation assay for chemotherapy sensitivity testing of human solid tumors. *Mayo clin. Proc.* 57:527-528, 1982.
13. Schwarzmeier JD, Paietta E, Mittermayer K, Pirker R: Prediction of the response to chemotherapy in acute leukemia by a short-term test in-vitro. *Cancer* 53:390-395, 1984.
14. Theodorakis ME and Goldberg J: A rapid in-vitro drug sensitivity assay in acute non lymphocytic leukemia. *Am. J. Hematol.* 15: 261-271, 1983.

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On reading over the articles included in this issue, it seems many of our dear readers might be uninitiated to the niceties of cancer research programs that are touched on in these articles; e.g., Phase I, Phase II, and Phase III Clinical Trials; ECOG and other such obscurantisms, clear only to those at daily work in the refined fields of cancer research and treatment trials.

Well, here are some answers to some questions that might arise while glancing through this issue.

Firstly, kind of at the top of the heap is your government's National Cancer Institute (NCI), which engineers a lot of the grants and networks for cancer research and therapeutic trials that take place within the United States. The American Cancer Society nationally and locally, of course, has been promoting research.

Next, there are 4 major investigation groups, with which the Hawaii Medical Association Clinical Trials office participates, gathering and transmitting information on the various aspects of cancer treatment and treatment trials, otherwise known as "protocols." These are the Eastern Cooperative Oncology Group (ECOG), the Gynecologic Oncology Group (GOG), the Radiotherapy Oncology Group (ROG), and the Cancer Research Center of Hawaii (CRCH).

The HMA's Clinical Trials office, with Daniel W. Stoy as senior data manager, "manages" data for Hawaii cancer patients who are on clinical trial protocols from the above-named organized research programs.

The ECOG, for example, was formed more than 30 years ago as a cooperative study group to participate in clinical trials of the NCI. It is the oldest such study group in the nation. The ECOG includes many surgeons, radiotherapists, and medical oncologists, not necessarily in the "east," and including many of the foremost cancer specialists now practicing in Hawaii.

Phases I, II, and III

A Phase I Clinical Trial is a study of a treatment regimen to determine optimum dosages and schedules.

A Phase II Clinical Trial is a study of one or more treatment regimens to determine anti-tumor activity.

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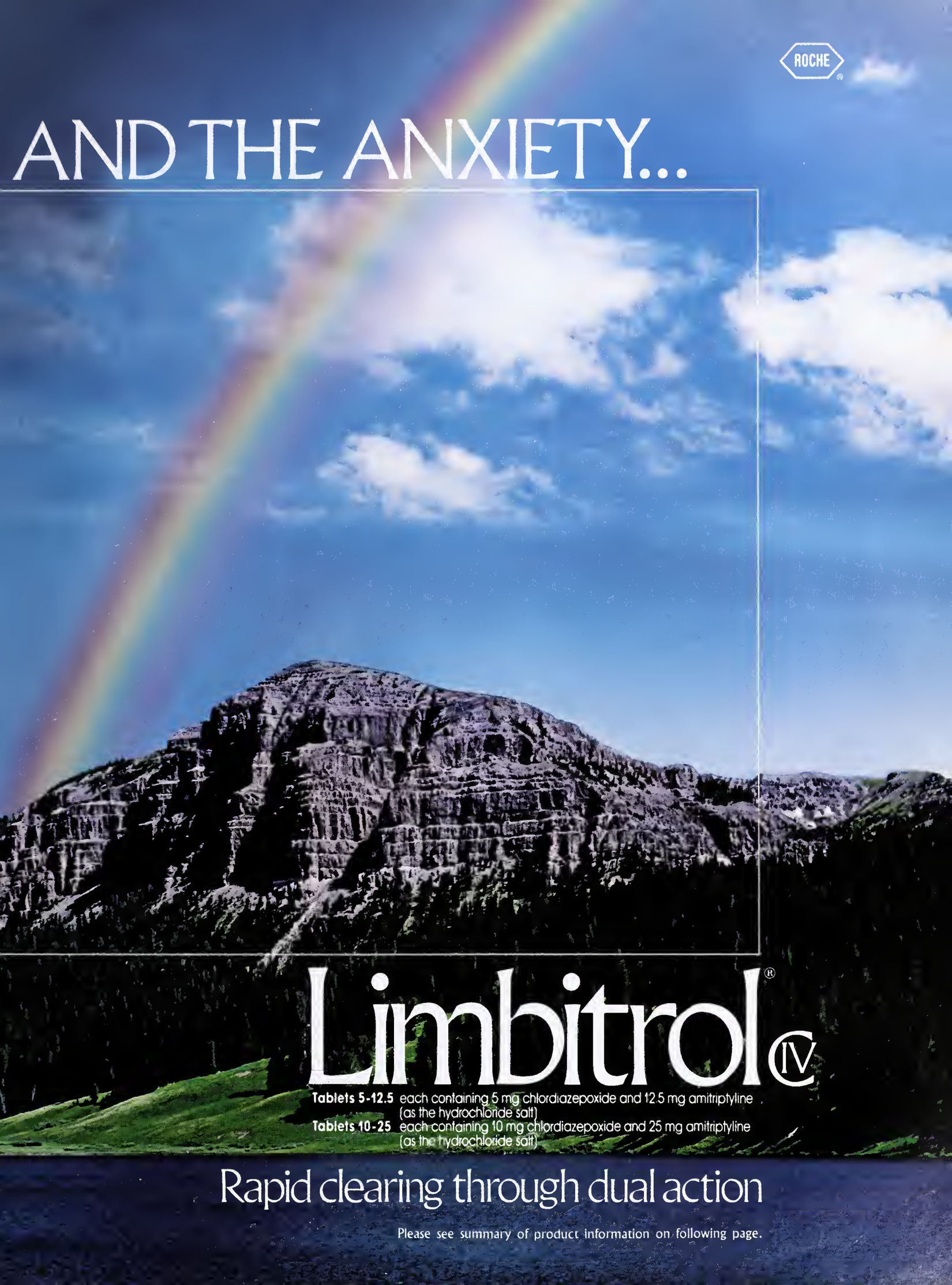
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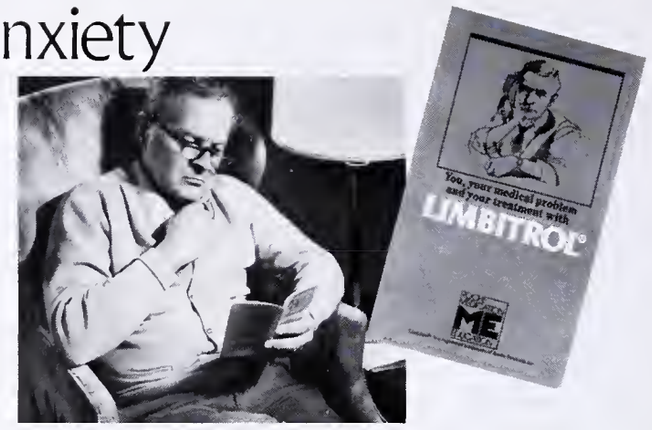
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Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

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Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia

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Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling

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HAWAII MEDICAL JOURNAL

CONTENTS

Editorial: Licensing Exams 389
Thomas Au, M.D.

Continuing Medical Education 389

Intracoronary Streptokinase for Acute Myocardial Infarction 390
David J.G. Fergusson, M.D., Raymond K. Itagaki, M.D., and Richard Reeve, M.D.

Early Experience with Intravenous Streptokinase in the Treatment of Acute Myocardial Infarction in Hilo Hospital 394
Djon Indra Lim, M.D.

Neonatal Polycythemia in Hawaii 398
Thomas E. Wiswell, M.D., Phillip G. Pettett, M.D., and James S. Rawlings, M.D.

Effect of Vacuum Cleaning on House Dust Mites 404
Jennifer E. Massey and Douglas G. Massey, M.D.

Over the Editor's Desk 408
Harry L. Arnold, Jr., M.D.

IgE and IgG $_{1, 2, 4}$ in Desensitization of Pollen Asthma 410
Yu Kun Chien, M.D., F. Anfosso, Ph.D., and J. Charpin, M.D.

HMA Auxiliary News 414
Sue Pinkerton

Clinical Pathologist's Easy Chair: Rheumatic Diseases 416
Francis H. Fukunaga, M.D.

News and Notes 418
Henry N. Yokoyama, M.D.

Hawaii Academy of Family Physicians' Newsletter 424
Dr. Don & Mrs. Marlies Farrell

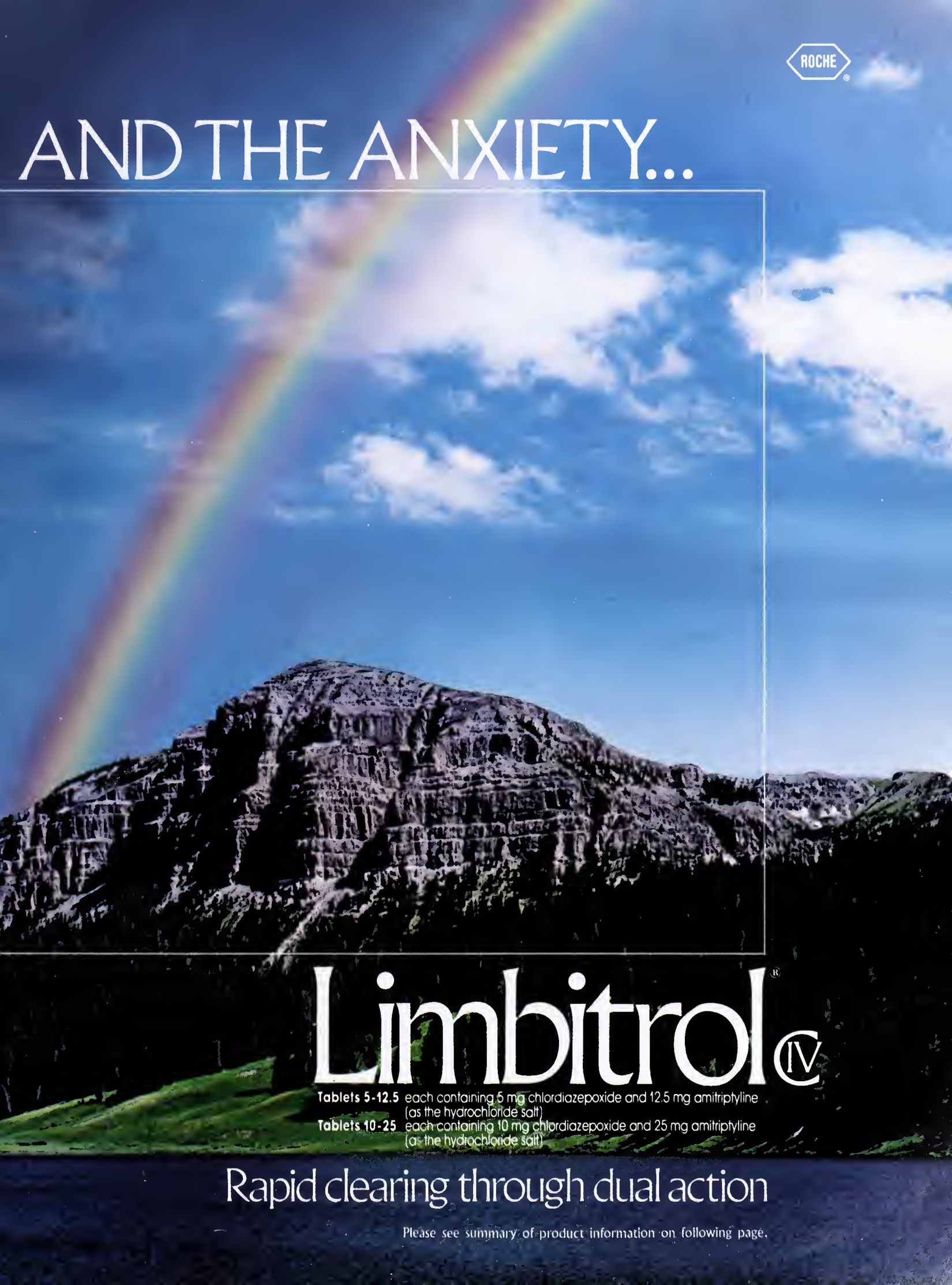


128th Annual Meeting of the* Hawaii Medical Association, *November 9-10-11, 1984, at the Kauai Surf Hotel and Convention Center.

CLEARING: BOTH THE DEPRESSION...



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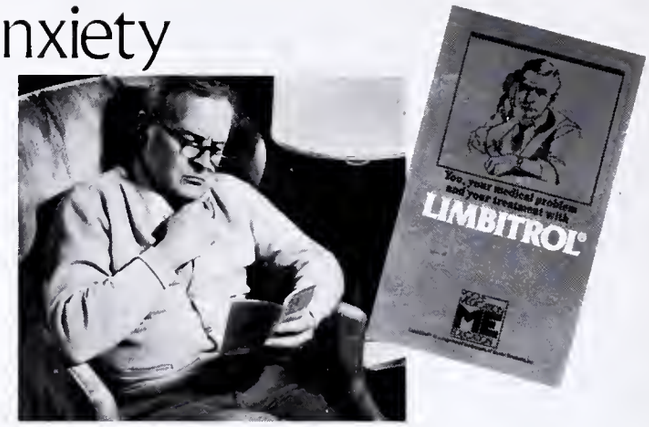
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Editorial

Licensing Exams

A drastic and potentially damaging change is being proposed for the medical licensing examination process in this country. It could compromise the future quality of medical education and practice.

Opposed to the change are the American Medical Association, the Association of American Medical Colleges, the American Board of Medical Specialties, and the Council of Medical Specialty Societies.

State medical licensing boards are being asked to make the Federation of State Medical Boards (FSMB) licensing examination (FLEX) the only pathway to licensure. The alternate pathway, the National Boards Parts I, II, and III, administered by the National Board of Medical Examiners (NBME), would be closed. Our profession has good reason to be concerned.

The existing dual pathway system, with about 75% of physicians licensed through National Boards certificates each year, has helped to make the quality of American medical education and practice the finest in the world. Why "fix" something that works so well?

This recent proposal to eliminate the dual examination pathway to licensure raises many concerns. Will state licensing boards be able to handle such a huge increase in examination responsibility, especially when many of them already are woefully short of personnel and funds?

Limiting the examination process to FLEX, without the balance provided by the National Boards, could open the door to inappropriate influence on medical school curricula, and to the risk of undue pressure on medical school deans to make curricula conform to FLEX. At the same time, medical schools could lose a valuable educational resource, since faculty use the National Board examinations to enrich curricula as well as to measure student knowledge and competence against a national norm.

Medical school faculty also traditionally have provided examination questions for the "pool" maintained by the NBME by serving as expert members on National Boards panels. Under the recent proposal, this function would be taken over by a committee responsible to the FSMB, and would eliminate the productive educational exchange between medical school faculty and National Board examiners.

Therefore, the Hawaii Medical Association will be urging the Board of Medical Examiners to maintain the existing dual licensing system.

Thomas Au, M.D.

Continuing Medical Education

LOCAL ACCREDITED PROGRAMS

ONGOING

For a complete list of on-going programs, please refer to the September 1984 issue of the HAWAII MEDICAL JOURNAL. Further information is available through the individual institutions or through the HMA's CME Department.

SPECIAL EVENTS

For a list of up-coming local special events through April 1985, see pages 342-346 in the October 1984 issue of the HAWAII MEDICAL JOURNAL.

Intracoronary Streptokinase for Acute Myocardial Infarction

David J.G. Fergusson, M.D.; Raymond K. Itagaki, M.D.;
Richard Reeve, M.D., Honolulu

● *The use of intracoronary streptokinase in patients with acute myocardial infarction has become widespread since its introduction in 1981[1, 2] and perhaps represents the most important advance in the management of this condition in many years.*

Since the most important factor in determining both the immediate and long-term prognosis in patients with acute myocardial infarction is the mass of myocardium lost to infarction, major research efforts have been directed toward finding means of reducing infarct size. The main thrust has been an attempt to reduce myocardial oxygen demand in the face of the sudden reduction of blood flow that occurs in acute myocardial infarction. While some success has been achieved in animal experiments, no consistent advantage has been found in humans.

Myocardial necrosis is not an instantaneous process following coronary occlusion, but occurs progressively over a period of several hours, extending outward from the subendocardial region.[3] Early restoration of blood flow would seem to be the most logical approach to infarct-size reduction. Early surgical revascularization has been advocated,[4] but has not gained widespread acceptance. Such a radical departure from conventional treatment is hard to accept in the absence of controlled data, and the logistics involved would seem to preclude restoration of blood flow before the infarct process is essentially completed.

After previous controversy regarding the cause of acute myocardial infarction, coronary thrombosis is now recognized as being present in the great majority of cases.[5] Lysis of this thrombus at an early stage thus can be expected to restore coronary flow and salvage part of the myocardium destined to become infarcted. Thrombolysis has been achieved by the infusion of streptokinase through a catheter introduced into the proximal part of the occluded coronary artery. Streptokinase activates plasminogen present in the plasma and in the clot, to form plasmin, a strong lytic agent.

Results of such treatment have been encouraging from the standpoint of structure, function, and clinical outcome.

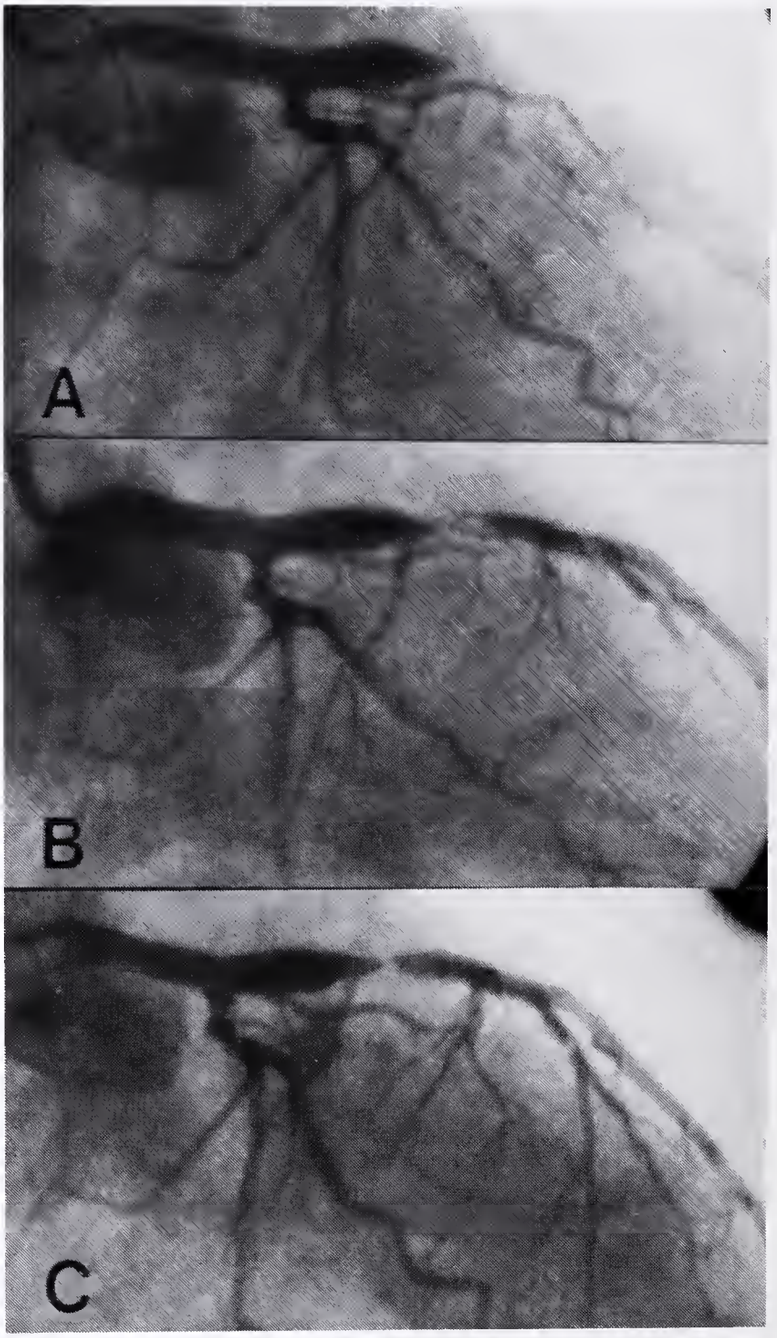
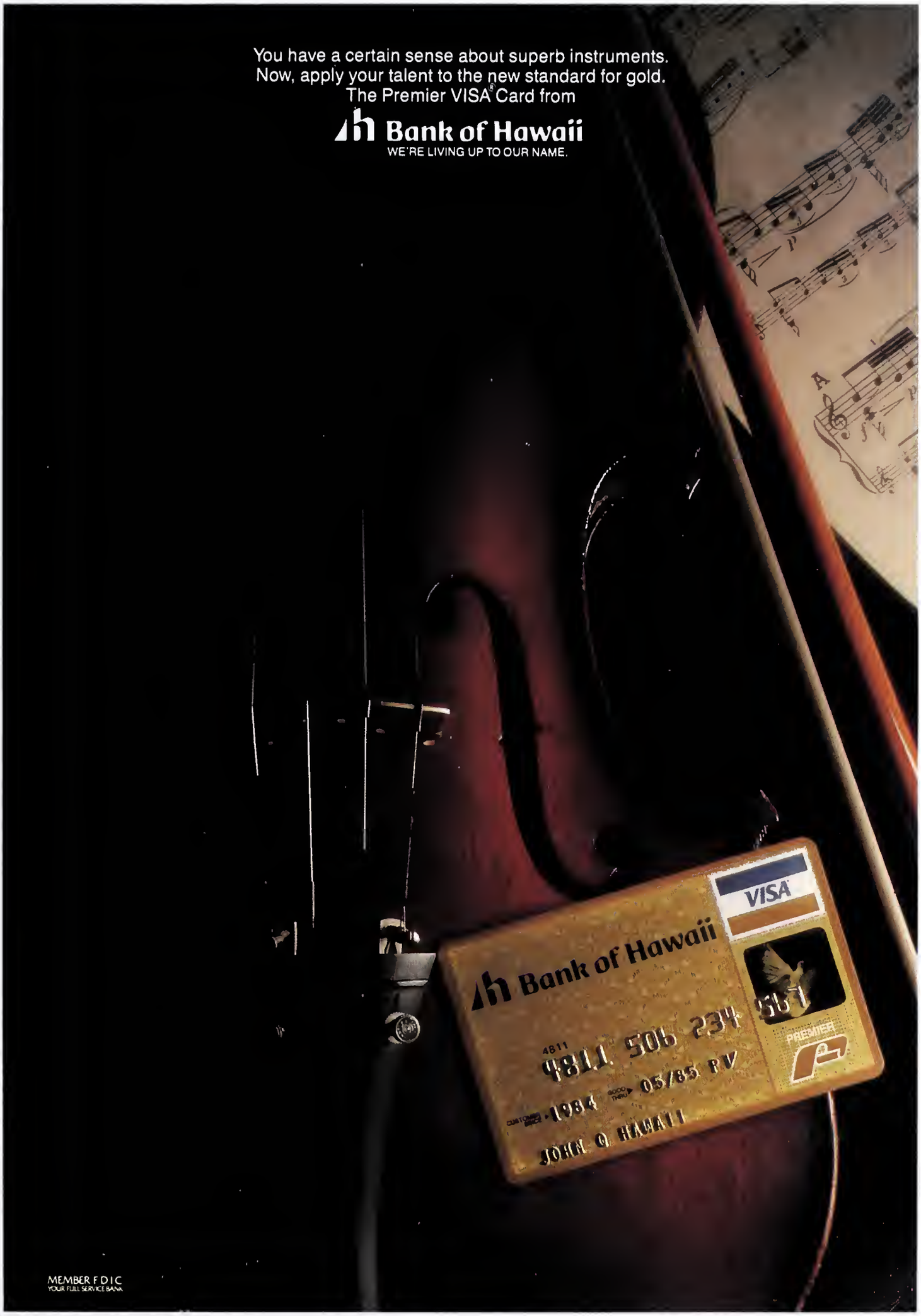


Fig. 1. Left coronary artery of 69-year-old man with acute antero-septal myocardial infarction. (A). Anterior descending artery totally occluded prior to infusion. (B). After 10 minutes of streptokinase infusion, showing resumption of patency but severe residual obstruction and filling defect representing thrombus extending distally. (C). After 1 hour, thrombus has cleared but severe atherosclerotic narrowing remains.

Correspondence: Dr. Fergusson, Straub Clinic, Honolulu.

Accepted for publication June 1984.


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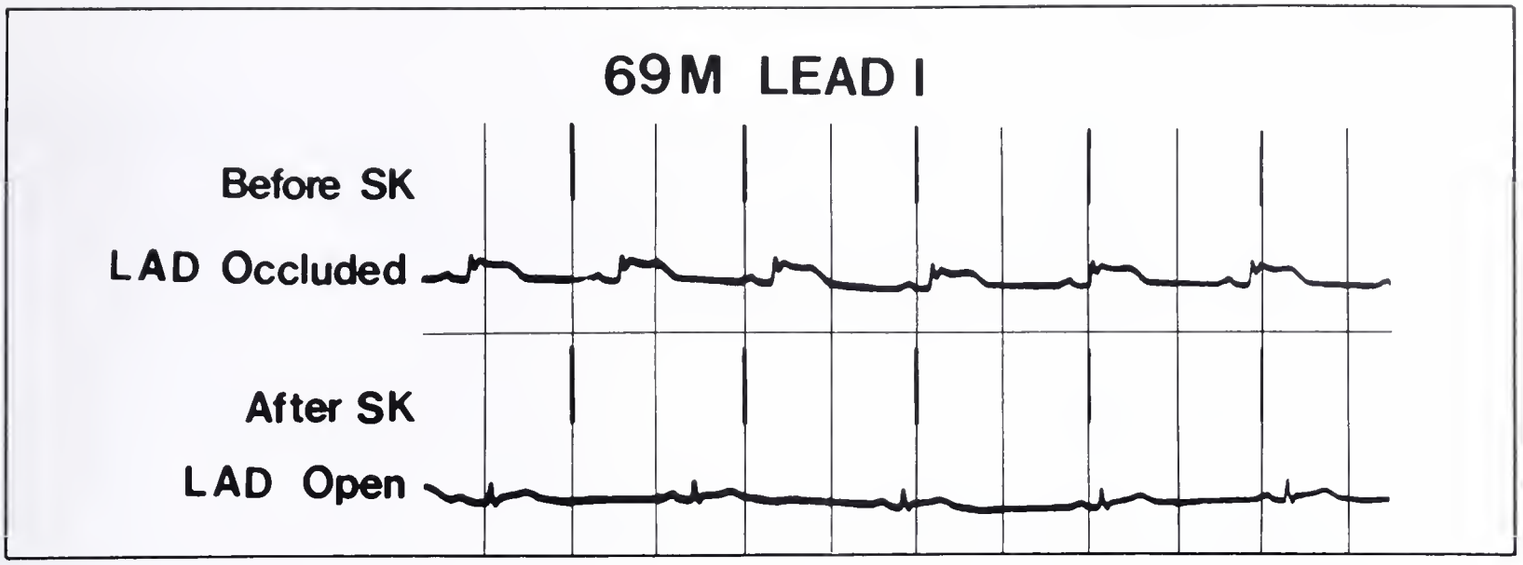


Fig. 2. Normalization of ST segment elevation after streptokinase has restored patency of left anterior descending artery.

Blood flow has been restored in about 70% of totally occluded vessels. Sequential studies of left ventricular function have shown an advantage from reperfusion[6], and a large randomized trial has shown decreased mortality in streptokinase-treated versus conventionally-managed subjects.[7]

While a high proportion of occluded arteries may be recanalized, there is usually a severe residual stenosis at the site of occlusion, representing the original atherosclerotic plaque on which the thrombus formed and which may well have on it an area of intimal disruption as a predisposing cause for the thrombosis. As might be expected, reocclusion is common and steps must be taken to prevent this. Uncertainty exists as to the best method. Anticoagulation and antiplatelet medications, by-pass surgery, and coronary angioplasty have been advocated as ways to prevent reinfarction.

Straub Experience

During the past 2 years, 28 patients with myocardial infarction resulting from total occlusion of a coronary artery have undergone intracoronary streptokinase infusion. Twenty-two men and 6 women have ranged in age from 39 to 76, with a mean of 62. Of these patients, 5 had had a previous myocardial infarction, this being the first infarct episode for the remainder. Ten of the infarcts were anterior and 18 inferior and/or lateral. There was close correlation of the electrocardiographic diagnosis with the site of occlusion, which was the anterior descending artery in the 10 anterior infarctions, and among the right coronary artery in 12 and the circumflex in 6.

The time from onset of symptoms to beginning infusion varied from 30 to 360 minutes with an average of 145 minutes. All but 7 were started under 3 hours. Streptokinase infusion resulted in restoration in blood flow in 21 of the occluded vessels (75%). In all of these, high grade residual stenosis was observed and coronary artery bypass graft surgery was performed in 17, mostly within the first 4 days after the procedure. Two of the subjects in whom recanalization was not achieved underwent subsequent by-pass surgery. One hospital death occurred in a non-recanalized patient, and one late death, apparently arrhythmic, occurred in a 76-year-old man who had suffered a previous myocardial infarct, was successfully recanalized, and subsequently underwent initially successful bypass surgery.

The findings in this series of patients are in accord with those of other reported series, which have shown about 3/4 of occluded vessels being recanalized. Reinfarction was not encountered, perhaps because the majority of the patients underwent early coronary by-pass surgery. Angioplasty was not employed in this group, but may well be an appropriate alternative to surgery in many instances.

While this technique appears to represent a significant advance in the management of patients with acute myocardial infarction, its application is necessarily restricted to individuals who are within reach of an available catheterization laboratory. Interest thus is being rekindled in using streptokinase by the intravenous route. High-dose short-term infusions have resulted in a recanalization rate of about 50%[8], somewhat less successful than by the intracoronary route but theoretically with a much wider applicability and shorter delay before starting treatment.

The principal hazard of streptokinase therapy, especially in large doses, is the bleeding tendency that stems from destruction of fibrinogen as well as fibrin. The use of human tissue plasminogen activator in place of streptokinase may overcome this problem, but the substance is not yet available for general use. Animal experiments have been encouraging[9] and controlled clinical trials now are underway.

Summary

The intracoronary infusion of streptokinase for patients with acute myocardial infarction represents a significant advance, providing coronary reperfusion in about 3/4 of patients with consequent reduction of the potential infarct size and improved clinical outlook. Our experience has been in accord with reported series. Intravenous streptokinase may be less effective but may offer much wider applicability.

REFERENCES

1. Rentrop P, Blanke H, Karsch KR, et al.: Selective intracoronary thrombolysis in acute myocardial infarction and unstable angina pectoris. *Circulation* 63:307-317, 1981.
2. Ganz W, Buchbinder N, Marcus H, et al.: Intracoronary thrombolysis in evolving myocardial infarction. *Am. Heart J.* 101:4-13, 1981.
3. Reimer KA, Lowe JE, Rasmussen MM, et al.: The wavefront phenomenon of ischemic cell death: Myocardial infarct size vs. duration of coronary occlusion in dogs. *Circulation* 56:786-794, 1977.
4. Berg R, Kendall RW, Duvoisin GE, et al.: Acute myocardial infarction, a surgical emergency. *J. Thorac. Cardiovasc. Surg.* 70:432-439, 1975.
5. DeWood R, Spores J, Notske R, et al.: Prevalence of total coronary occlusion during the early hours of transmural myocardial infarction. *N. Engl. J. Med.* 303:897-902, 1980.
6. Mathey DG, Kuck KH, Tilsner V, et al.: Nonsurgical coronary artery recanalization in acute transmural myocardial infarction. *Circulation* 63:489-497, 1981.
7. Kennedy JW, Ritchie JL, Davis KB et al.: Western Washington randomized trial of intracoronary streptokinase in acute myocardial infarction. *N. Engl. J. Med.* 309:1477-1482, 1983.
8. Spann JR, Sherry S, Carabello BA, et al.: High-dose brief intravenous streptokinase early in acute myocardial infarction. *Am. Heart J.* 104:939-945, 1982.
9. Van de Werf F, Bergman SR, Fox KAA et al.: Coronary thrombolysis with intravenously administered human tissue-type plasminogen activator produced by recombinant DNA technology. *Circulation* 69:605, 1984.

Early Experience with Intravenous Streptokinase in the Treatment of Acute Myocardial Infarction in Hilo Hospital

Djon Indra Lim, M.D., Hilo

● *Thirteen patients, 11 with acute myocardial infarction (M.I.) and 2 with impending M.I., were treated with short-term (1 hour), high-dose intravenous streptokinase: 1 million International Units (I.U.) in 8 patients and 1.2 million I.U. in 5 patients. Eight patients had inferior and 5 patients anteroseptal-anterior M.I. Twelve patients survived; 1 was admitted and died in cardiogenic shock. The average delay between the onset of chest pain and the start of infusion of streptokinase was 2.1 hours. Typical early 12th hour maximal total CPK rise suggestive of reperfusion was seen in 10 of 13 patients (77%); in 1 patient with impending M.I. transmural infarction was aborted; 1 patient showed a non-reperfused late (24th hour) maximal CPK rise. This was the only patient who showed moderate congestive heart failure. There was no bleeding complication, intractable chronic ventricular arrhythmia, or re-infarction suggestive of re-thrombosis of a reperfused infarct-related coronary artery. The average hospital stay was 9 days.*

Thrombosis of a stenosed coronary artery resulting in acute myocardial infarction was found in the majority of cases recently studied by coronary angiography and coronary artery bypass surgery[1] and at autopsy.[2] In experimental canine models an ischemic area of myocardium usually remains viable for 3 to 6 hours after coronary ligation.[3] Therefore, a time frame of several hours exists between the onset of coronary thrombosis and the onset of irreversible myocardial necrosis, in which zones of myocardial ischemia could be preserved by coronary reperfusion.

In 1981 coronary reperfusion was successfully demonstrated with the use of intracoronary streptokinase.[4, 5, 6, 7] In the same year, Lee et al.[8] and Schroeder et al.[9] demonstrated successful coronary artery reperfusion using intravenous streptokinase.

This article reports our experience with the first 13 cases of acute or evolving myocardial infarction treated with intravenous streptokinase at Hilo Hospital, Hawaii, between May 1983 and February 1984.

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Patients and Methods

The study population consisted of 11 men and 2 women ranging in age from 37

TABLE 1. Summary of the 13 consecutive patients treated with streptokinase at Hilo Hospital

Case # Name	Age, Sex	Time delay, hours	Site of MI*	Max. total CPK at 12th hour	Reperfusion Arrhythmia	CHF+	Intractable PVCs‡	Bleeding Problem	Length of Stay, Day	Streptokinase, million of I.U.
1-MS	64 M	1	IW	+	-	-	-	-	5	1
2-RK	70 M	3	IW	No change	-	-	-	-	6	1
3-MM	62 F	4	AS	+	-	-	-	-	13	1.2
4-BS	68 M	2.5	IW	-	-	+	-	-	11	1.2
5-JC	70 M	2	IW	+	-	-	-	-	8	1
6-TS	65 M	2	AL	+	+	-	-	-	19	1
7-FH	57 F	3.5	IW	+	-	-	-	-	6	1.2
8-YS	63 M	1	A	Patient died within 4 hr	-	-	-	-	-	1
9-JS	69 M	2	AS	+	-	-	-	-	5	1
10-HA	44 M	1.5	IL	+	+	-	-	-	9	1
11-GH	50 M	2	A	+	-	-	-	-	10	1.2
12-JY	56 M	1.2	IW	+	+	-	-	-	9	1
13-WH	37 M	2.5	IW	+	-	-	-	-	8	1.2
	M = 11 F = 2	Av = 2.1H	IW = 8 AS-A = 5	10 of 13	3 of 13	1 of 13	0	0	Av = 9D	

* IW = inferior wall; IL = inferolateral; A = anterior; AS = anteroseptal
\+ CHF = congestive heart failure
‡ PVC = premature ventricular contractions
D = days

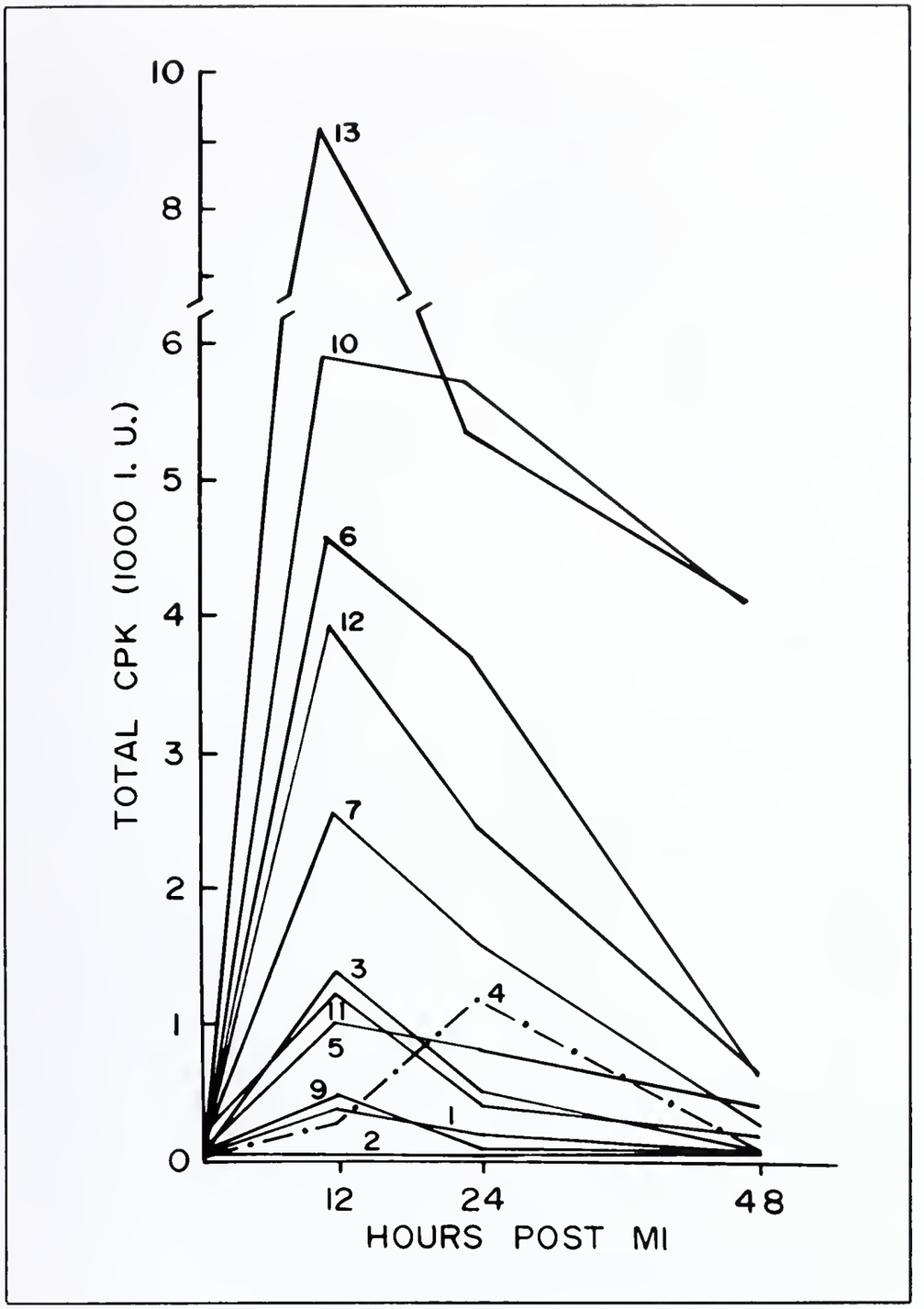


Figure. Total serum CPK activity curves in relationship to the time after acute onset of myocardial infarction. Coronary reperfusion results in an early peak of the maximal total CPK occurring about 12 hours after the onset of chest pain (—), as opposed to the classical 24th hour maximal total CPK level if reperfusion failed to occur (— · —). The rapid rise of the CPK is thought to be due to washout effect following recanalization of an occluded coronary artery. Numbers on the graph represent patients (see Table 1).

to 70. The criteria for inclusion of patients in the study included the diagnosis of acute or evolving myocardial infarction by history with typical electrocardiographic changes. None of the chest pain and acute EKG changes were reversed with 0.4-0.8 mg sublingual nitroglycerin. (The infarction should be recent, preferably less than 6 hours old.) To reduce the risk of bleeding, only select patients 70 years or younger with no contraindication to streptokinase were chosen and invasive procedures were avoided. The family's verbal consent for streptokinase therapy was obtained.

The protocol for the use of intravenous streptokinase included baseline CBC, platelet count, thrombin time, prothrombin time, partial thromboplastin time, and fibrinogen level. Serial EKGs and cardiac enzymes were obtained on admission, and at 12, 24, and 48 hours post-myocardial infarction. Eight patients received 1 million I.U. and 5 patients received 1.2 million I.U. of streptokinase dissolved in 100 cc of D5W and administered intravenously over 1 hour, preceded by a bolus of 500 mg hydrocortisone to reduce the risk for allergic-type reaction. Lidocaine drip, usually started in the emergency room, was maintained at 2-3 mg per minute, for 12 to 14 hours. Low sodium antacid, 30 cc every 2-3 hours, was given while awake to reduce the risk of gastric irritation or bleeding. Antiplatelet adhesion agent, dipyridamole (10 of 12 patients) was started simultaneously and maintained at 50-75 mg b.i.d.; where applicable, antiplatelet aggregation agent, aspirin (6 of 12 patients) in small doses of 80 mg once daily was started 3-4 days after infusion of streptokinase (Table 2).

Results

Twelve out of 13 patients survived (Table 1). One patient (#8), a 63-year-old man with anterior M.I., admitted in cardiogenic shock, died 4 hours after infusion of streptokinase. The average delay between the onset of chest pain and the start of intravenous streptokinase was 2.1 hours. Typical reperfusion enzyme curve showing an early maximal total CPK level about 12 hours post-infarction was seen in 10 of 13 patients (77%) (Figure). Non-reperfusion enzyme curve was seen in 1 patient (#4) who had an inferior M.I. with a typical non-reperfused maximal total CPK level at 24 hours post-M.I. He was the only patient showing moderate congestive heart failure despite streptokinase therapy. In patient #2, transmural myocardial infarction was aborted. Intractable ventricular arrhythmia was not encountered in any patient. There were no bleeding complications. The average length of hospitalization was 9 days.

Post-discharge (Table 2), 4 patients (#3, #9, #10, and #13) underwent cardiac catheterization; 3 showed good ejection fraction above 48%. Of these 3, 2 patients (#9 and #13) went on to have coronary artery bypass surgery. One patient (#10) had major right and moderate left anterior descending coronary artery disease and surgery was not advised. In the fourth patient (#3), a 62-year-old woman with diabetes, diffuse coronary artery disease and ejection fraction below 40%, nonsurgical therapy also was advised.

In all, 10 of the 12 patients who survived were medically treated. The reinfarction rate for the period of this study was zero. One patient (#9) was readmitted 1 week post-discharge with unstable angina. Cardiac catheterization showed diffuse triple-vessel disease but good ejection fraction, and, following coronary artery bypass surgery, his course remains stable.

TABLE 2.
Post-discharge status
of 12 patients

Medical treatment:	10
Cardiac catheterization:	4
Bypass operation:	2
Antiplatelet therapy:	
Dipyridamole	10
Aspirin	6
Re-infarction:	0

Discussion

Although recanalization of a thrombosed coronary artery with intracoronary streptokinase infusion represents a promising treatment modality to limit myocardial infarct size,[4, 5, 6, 7] the necessity for coronary catheterization limits this form of therapy to a relatively small number of patients and essentially precludes this modality of therapy in community hospitals where cardiac catheterization is not available, and where an estimated 75% to 80% of acute M.I.s are treated in the United States. Lee,[8] Schroeder,[9] and Neuhaus[10] and their co-workers showed that early recanalization of the infarct-related coronary artery could be achieved with high-dose (500,000-1,500,000 I.U.) short-term intravenous streptokinase infusion.

The preliminary observations from this study are encouraging. Except for one patient who was admitted and died in cardiogenic shock, 12 patients survived including one in whom transmural infarction was aborted. This patient had impending myocardial infarction or unstable angina. Lawrence et al.[15] showed that i.v. steptokinase can prevent progression of unstable angina to myocardial infarction.

The single best non-invasive parameter to suggest successful recanalization is the early peaking of the maximal total CPK, about 12 hours after the onset of chest pain, instead of the classical 24th hour maximal CPK peak in non-reperfused cases.[6, 8, 10, 11, 13, 16] Using this criterion, 10 of 13 patients (77%) showed evidence of coronary reperfusion (Figure); restoration of coronary blood flow was also thought to occur in one patient who had impending infarction and in whom transmural infarction apparently was aborted. The rate of successful recanalization is higher with intracoronary (50-80%)[5, 6, 7] versus intravenous (50-70%)[8, 12] streptokinase infusion in acute M.I. Higher success rate (greather than 70%) can be achieved with intravenous streptokinase therapy if the delay between the onset of chest pain and start of therapy is within 3 hours.[13]

Although intracoronary infusion of streptokinase results in earlier thrombolysis (in 20-60 minutes) as opposed to a delayed thrombolysis with i.v. streptokinase (45-90 minutes),[16] this advantage is offset with earlier initiation of therapy by the intravenous route by 1 to 2 hours. The good success rate of the present study probably reflects the relatively short (average 2.1 hours) time separating the onset of chest pain and the commencement of streptokinase therapy.

If the patient in whom transmural M.I. was aborted is also considered successfully reperfused, then the success rate of reperfusion in this study is 85% (11 of 13 patients). There was no significant difference in the success rate of reperfusion using 1 million I.U. (7/8) and 1.2 million I.U. (4/5) of streptokinase. Without the intervention of streptokinase, Ong et al.[17] demonstrated spontaneous reperfusion in 24 of 52 patients (46%) with transmural myocardial infarction, the patients showing improved regional and global ejection fraction from the time of admission to discharge, indicating that reperfusion had reduced the extent of myocardial necrosis. The present study showed that the reperfusion rate can be significantly improved with early high dose intravenous streptokinase therapy.

Other less consistent non-invasive markers of reperfusion include rapid relief of chest pain[5, 6, 7] in 5 of 13 patients, rapid evolution of elevated ST segments to baseline[5, 6, 7] in 3 of 13 patients, and reperfusion arrhythmia[7, 13, 18] in 3 of 13 patients. As opposed to the study of Goldberg et al.,[18] which noted a high incidence (74%) of reperfusion arrhythmia with successful intracoronary thrombolysis, the low incidence of reperfusion arrhythmia in this study might in part be due to failure of documentation of a transient arrhythmia or because all of the patients were on simultaneous lidocaine infusion.

Although high-dose streptokinase therapy poses a possible threat for bleeding complications due to induction of systemic fibrinolysis, careful patient selection, short-term infusion (1 hour) and avoidance of invasive procedures can reduce the risk of bleeding.[10, 13, 14]

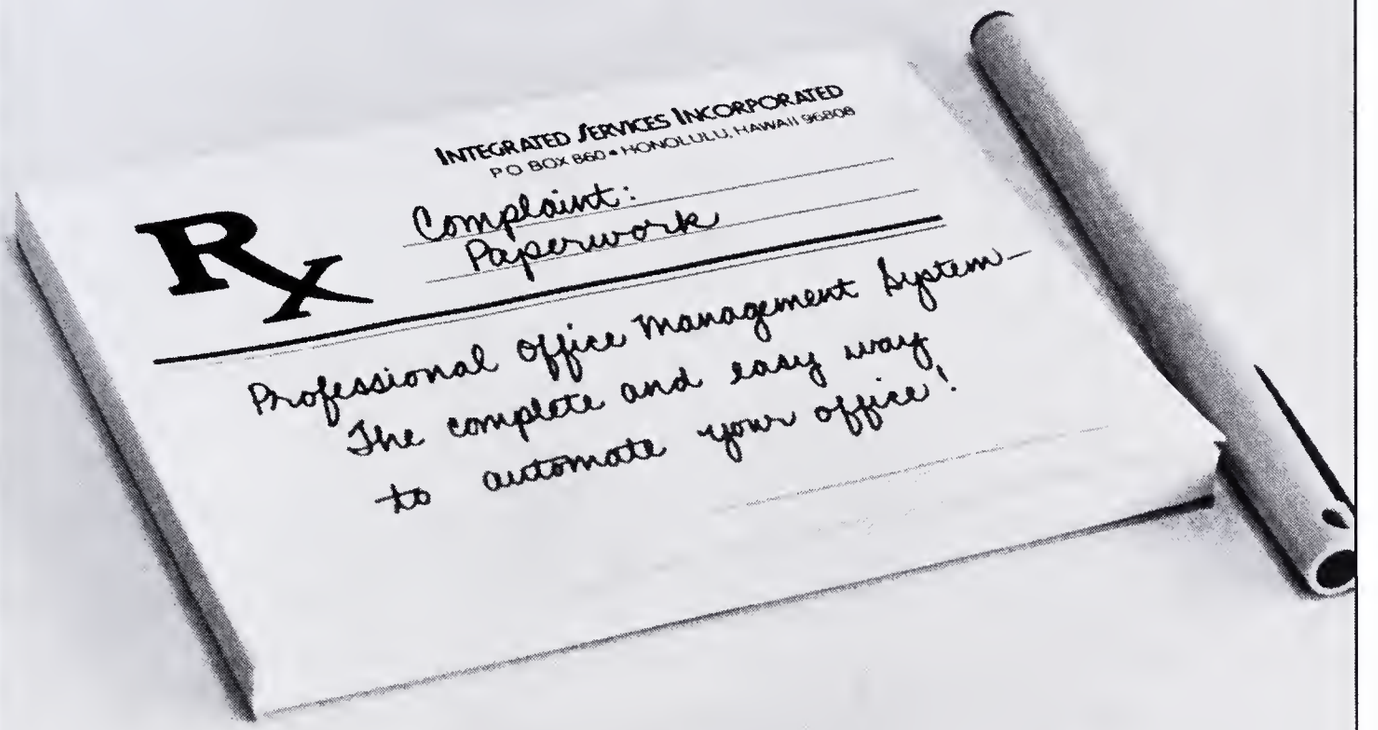
Significant bleeding complication was not seen in any of the 13 patients using either 1 or 1.2 million I.U. of streptokinase. The protocol of the previous studies[10, 13, 14] of i.v. streptokinase therapy in acute M.I. calls for concomitant infusion of i.v. heparin and subsequent chronic anticoagulation with coumadin, in contrast to the present study, where antiplatelet agents, dipyridamole, and, where applicable, low-dose aspirin, were used to minimize the risk of re-thrombosis of the affected coronary arteries. There was no incidence of acute re-infarction suggesting the occurrence of re-thrombosis in the 12 patients who survived in this series.

Therefore, if administered early, preferably within 6 and ideally within 3 hours after the onset of M.I., high-dose, short-term intravenous streptokinase infusion in selected patients is a safe, cost-effective, and promising modality to limit the extent of myocardial necrosis in acute or evolving transmural myocardial infarction. As opposed to intracoronary streptokinase therapy, intravenous streptokinase infusion, by obviating the need for cardiac catheterization, is applicable in a community hospital setting where 75% of acute M.I.s are encountered and treated in this country.

REFERENCES

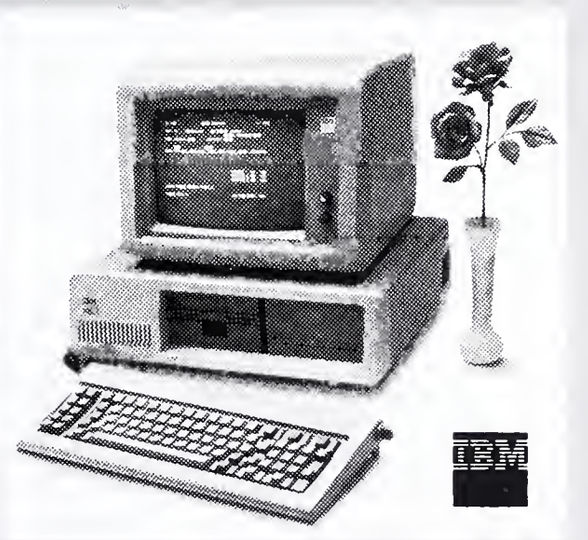
1. DeWood MA, Spores J, Notske R, et al.: Prevalence of total coronary occlusion during the early hours of transmural myocardial infarction. N. *Engl. J. Med.* 303:897-901, 1980.
2. Ridolfi RL, Hutchins GM: The relationship between coronary arterial lesions and myocardial infarcts: Ulceration of atherosclerotic plaques precipitating coronary thrombosis. *Am. Heart J.* 93:468-486, 1977.
3. Ginks WR, Sybers HD, Maroko PR, et al.: Coronary artery reperfusion. *J. Clin. Invest.* 51:2717-2723, 1972.
4. Rentrop KP, Blanke H, Karsch KR, et al.: Acute myocardial infarction: Intracoronary application of nitroglycerin and streptokinase. *Clin. Cardiol.* 2:354, 1979.
5. Rentrop KP, Blanke H, Karsch KR, et al.: Selective intracoronary thrombolysis in acute myocardial infarction and unstable angina pectoris. *Circulation* 63:307-317, 1981.
6. Mathey DG, Kuck KH, Tilsner V, et al.: Nonsurgical coronary artery recanalization in acute transmural infarction. *Circulation* 63:489-497, 1981.
7. Ganz W, Buchbinder N, Marcus H, et al.: Intracoronary thrombolysis in evolving myocardial infarction. *Am. Heart J.* 101:4-23, 1981.
8. Lee G, Amsterdam EA, Low RL, et al.: Coronary thrombolysis by intravenous streptokinase in clinical acute myocardial infarction. *Am. Heart J.* 102:783-786, 1981.
9. Schroeder R, Biamino G, Von Leitner ER: Intravenous short-time thrombolysis in acute myocardial infarction (abstract). *Circulation* 64(suppl 4):10, 1981.
10. Neuhaus KL, Tebbe U, Sauer G, et al.: High dose intravenous streptokinase infusion in acute myocardial infarction (abstract). *Eur. Heart J.* 2:144, 1981.
11. Udall JA: Noninvasive markers of intravenous streptokinase coronary thrombolysis. *Clin. Cardiol.* 6:86-96, 1983.
12. Mathur VS, Guin GA, Burris WH: Maximal revascularization (reperfusion) in intact dogs after 2 to 5 hours of coronary occlusion. *Am. J. Cardiol.* 36:252, 1975.
13. Schroeder R, Biamino G, Von Leitner ER, et al.: Intravenous short-term infusion of streptokinase in acute myocardial infarction. *Circulation* 67: 536-548, 1983.
14. Spahn J, Sherry S, Carabello B, et al.: Rapid coronary reperfusion by high dose brief intravenous streptokinase in acute myocardial infarction (abstract). *J. Am. Coll. Cardiol.* 1(2):629, 1983.
15. Lawrence JR, Shepherd JT, Bone 1, et al.: Fibrinolytic therapy in unstable angina pectoris: A controlled clinical trial. *Thromb. Res.* 17:767, 1980.
16. Udall J: Intravenous versus intracoronary streptokinase therapy for acute myocardial infarction. *Cardiovasc. Reviews and Reports* 4:635-646, 1983.
17. Ong L, Reiser P, Coromilas J, et al.: Left ventricular function and rapid release of creatine kinase MB in acute myocardial infarction. Evidence for spontaneous reperfusion. *N. Engl. J. Med.* 309:1-6, 1983.
18. Goldberg S, Urban P, Greenspon A, et al.: Limitation of infarct size with thrombolytic agents — electrocardiographic indexes. *Circulation* 68(suppl. 1):1-77, 1983.

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Neonatal Polycythemia in Hawaii

Thomas E. Wiswell, M.D., Maj., MC; Phillip G. Pettett, M.D., Lt. Col., MC; and James S. Rawlings, M.D., Col., MC, Honolulu

● *We studied the incidence of neonatal polycythemia in a population of 7,133 consecutive live births over a 2-year period. A total of 82 infants were so identified for an overall incidence of 1.14%. The incidence of polycythemia was significantly higher in both small- and large-for-gestational-age infants. Clinical findings associated with the polycythemia-hyperviscosity syndrome are discussed.*

Neonatal polycythemia is a frequently seen diagnostic and management problem for pediatricians.[1] It has been known to produce serious, sometimes life-threatening, insults to the brain, heart, kidneys, lungs, and intestines.[2-4] A venous hematocrit of 65% or greater is generally accepted as the definition of neonatal polycythemia.[1-6] The reported incidence in newborns has varied from 2.2% to 12%.[4-6] We report the incidence and associated manifestations of neonatal polycythemia in Hawaii.

Materials and Methods

All infants born at Tripler Army Medical Center (TAMC) during a 24-month period were screened for polycythemia. Capillary hematocrits were determined between 4 and 6 hours after birth. Heel sticks were performed with Medipoint blood lancets (Medipoint, Inc., Mineola, N.Y.). Blood was collected into heparinized capillary tubes. The tubes were centrifuged for 5 minutes in an Adams Microhematocrit Centrifuge (Clay Adams Co., Persippany, N.J.) The hematocrit (Hct) was read from a Micro-Capillary Reader (International Equipment Co., Neckham Heights, Mass.). A central venous hematocrit was performed if the screening capillary hematocrit was 65% or greater. Venous blood samples were drawn from an antecubital vein. Venous hematocrits were performed by the microhematocrit method. The infants were considered to be polycythemic if this peripheral venous hematocrit was ≥65%.

All neonates diagnosed as polycythemic were examined by one of the investigators and clinical findings were recorded. Particular attention was paid to the presence of plethora, lethargy, respiratory distress, poor feeding, jaundice, tremors, and convulsions. Laboratory examinations included chest roentgenogram, complete blood count with platelet count, and serum glucose.

Perinatal records were examined. Birth weights were recorded to the nearest 10 g. Gestational ages were determined from the mother's maternal history and confirmed by physical examination of the newborn.[7] Small-for-gestational-age (SGA) infants and large-for-gestational-age (LGA) infants were defined by birth weights, respectively, less than the 10th or greater than the 90th percentiles for gestational age.[8]

Polycythemic infants were all treated with a partial exchange transfusion through a catheter inserted into the umbilical vein. The baby's blood was replaced in 10 ml isovolemic increments by the plasma equivalent Plasmanate (Cutter Laboratories, Berkeley, Calif.). The exchange volume was calculated using the formula:

$$\text{Exchange volume} = \frac{\text{Initial Hct - Desired Hct}}{\text{Initial Hct}} \times \text{Body weight} \times \text{Blood volume}$$

The desired hematocrit level used was 55%. Various estimated values of blood volume for neonates range from 80-100 ml/kg. We generally used 85 ml/kg. To quantitate the effect of the exchange transfusion, a follow-up antecubital venipuncture microhematocrit was performed 1-2 hours after completion of the procedure. Serum bilirubin levels were subsequently followed in all infants.

The obstetrical service covers a

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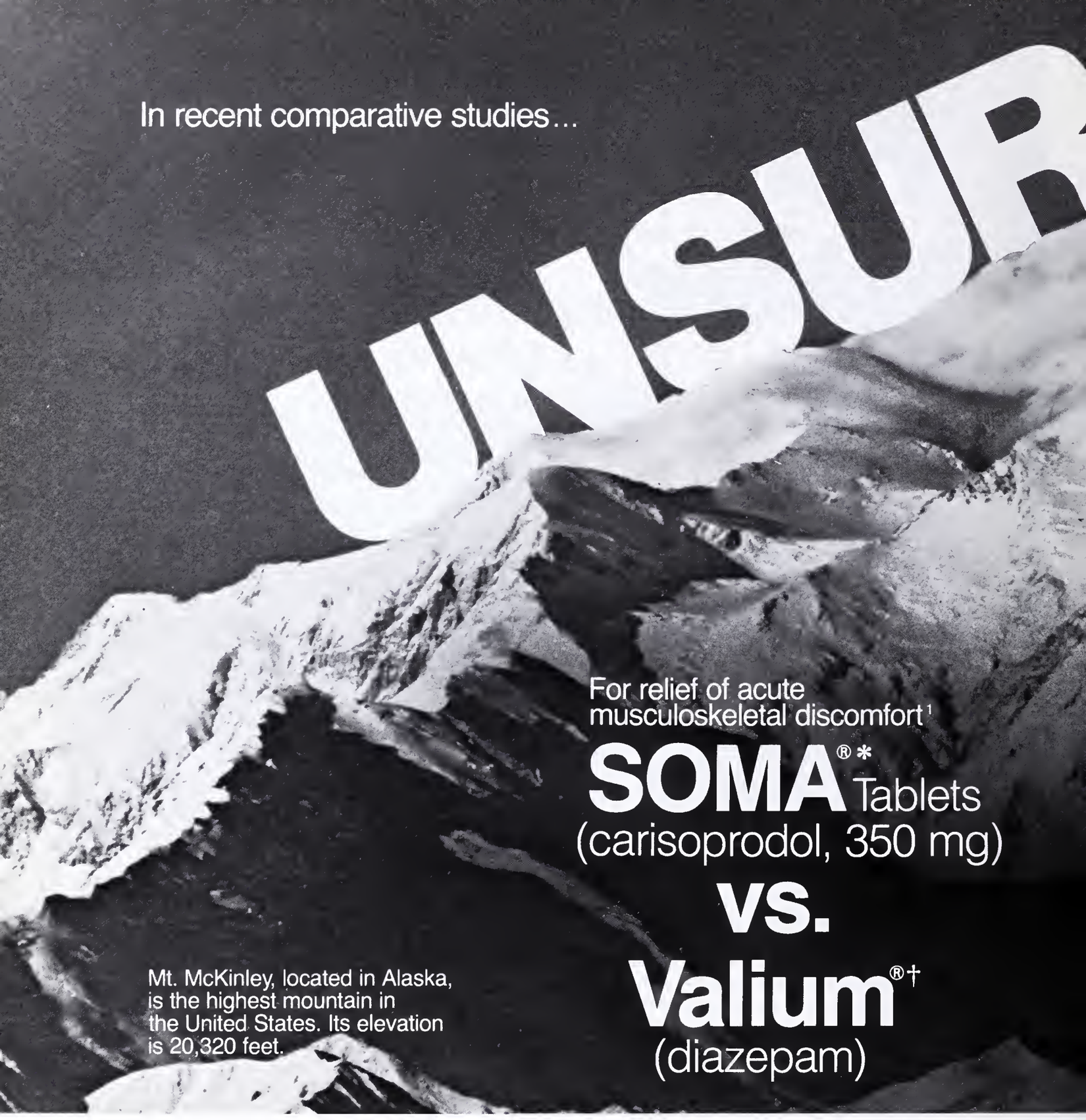
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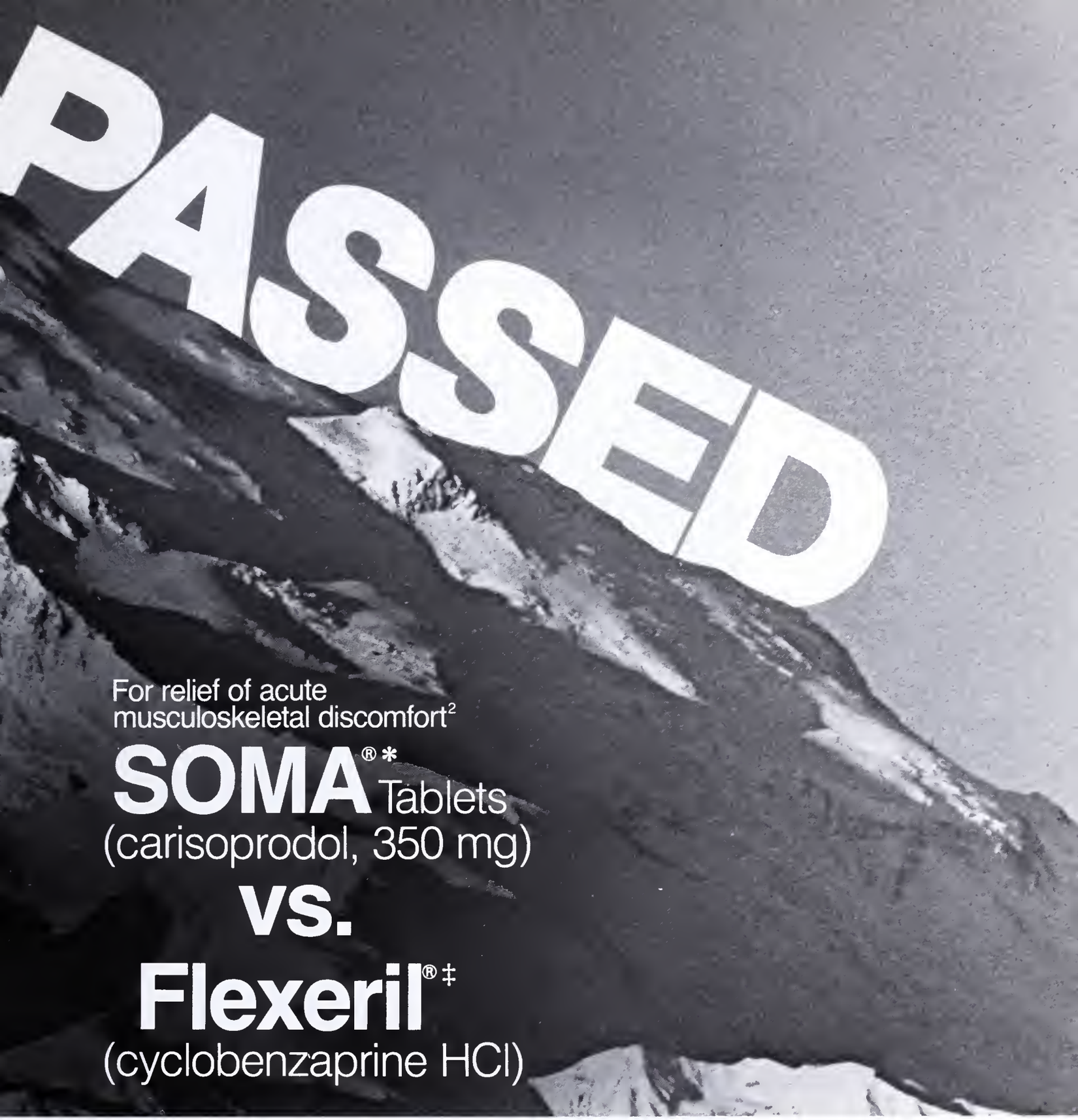
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References: 1. Boyles WF, Glassman JM, Soyka JP: Management of acute musculoskeletal conditions: thoracolumbar strain or sprain. *Today's Therapeutic Trends*, vol. 1(1), 1983. A controlled double-blind study of 71 patients. **2.** Rollings HE, Glassman JM, Soyka JP: Management of acute musculoskeletal conditions—thoracolumbar strain or sprain: A double-blind evaluation comparing the efficacy and safety of carisoprodol with cyclobenzaprine hydrochloride. *Curr Ther Res*, vol. 34, Dec. 1983. A controlled double-blind study of 58 patients.

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Additive Effects: Effects of carisoprodol with alcohol, barbiturates or other CNS depressants or psychotropic drugs may be additive.
Drug Dependence: Use caution in addiction-prone patients.
PRECAUTIONS: Administer cautiously to patients with compromised liver or kidney function to avoid excessive accumulation of carisoprodol.
ADVERSE REACTIONS: Drowsiness or other CNS effects may require dosage reduction. Dizziness, vertigo, ataxia, tremor, agitation, irritability, headache, depressive reactions, syncope, insomnia, tachycardia, postural hypotension, facial flushing, nausea, vomiting, hiccup and epigastric distress have been reported. Pancytopenia (attributed to phenylbutazone) and leukopenia (in combination with other drugs or viral infections) were reported in isolated instances. *Allergic or idiosyncratic* reactions have occurred occasionally after the first to fourth dose (see "Warnings"). In such cases, discontinue the drug and initiate appropriate treatment (e.g., epinephrine, antihistamines, corticosteroids). These reactions include: rash, erythema multiforme, pruritus, eosinophilia and fixed drug eruption. Severe reactions included asthmatic episodes, fever, weakness, dizziness, angioneurotic edema, smarting eyes, hypotension and anaphylactoid shock.
DOSAGE AND ADMINISTRATION: *Adults* — One 350 mg tablet 3 times daily and at bedtime.
OVERDOSAGE: Has produced stupor, coma, shock, respiratory depression, and very rarely death. The effects of an overdosage of carisoprodol and alcohol or other CNS depressants or psychotropic agents can be additive even when one of the drugs has been taken in the usual recommended dosage. Empty stomach, monitor blood pressure, respiration, cardiac status and urinary output; use symptomatic and supportive measures. Avoid overhydration. Relapse due to incomplete gastric emptying and delayed absorption has occurred. Peritoneal and hemodialysis and diuresis have been used successfully with related drug, meprobamate.
HOW SUPPLIED: White, 350 mg tablets in bottles of 100 (NDC 0037-2001-01) and 500 (NDC 0037-2001-03).

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heterogenous population. All infants were dependents of military personnel. The racial background was varied, about 50% Caucasian, 25% Black, 10% Oriental, 5% Polynesian, and 5% mixed.

The data were interpreted for significance using Chi-square analysis.[9]

Results

A total of 7,133 consecutive live births were delivered at TAMC during the study period. Identified as polycythemic were 82 infants, for an overall incidence of 1.14%. Mean birth weight for the polycythemic infants was 3,223 g (range: 1,210-4,900 g) and the mean gestational age was 39.6 weeks (range: 32-43 weeks). The mean post-transfusion hematocrit was 54.3% (range: 50-58%). Distribution of the screened population and polycythemic infants is shown in Table 1.

Although the majority of affected infants were term and appropriately grown (AGA), the incidence of polycythemia was significantly higher in SGA infants ($P<0.001$) and LGA infants ($P<0.05$). The incidence was also higher in premature infants, but not to a significant degree.

Associated clinical findings observed in the 82 infants are listed in Table 2. Prior to the exchange transfusion, 48 infants had a chest roentgenogram performed. Of these, 36 (75%) were abnormal, demonstrating cardiomegaly and vascular congestion. No infants were thrombocytopenic. One child died after a course complicated by asphyxia neonatorum, necrotizing enterocolitis, and *E. coli* septicemia.

TABLE 1. Patient profile

	Screened population	Polycythemia	Incidence	Significance
Number of infants	7133	82	1.14%	
Gestational age				
Pre-term (< 38 weeks)	422 (5.9%)	10 (12.2%)	2.37%	NS
Term (38-42 weeks)	6509 (91.3%)	69 (84.1%)	1.06%	NS
Post-term (> 42 weeks)	202 (2.8%)	3 (3.7%)	1.48%	NS
Growth status				
SGA	159 (2.2%)	9 (11.0%)	5.67%	$P< 0.001$
AGA	6398 (89.7%)	61 (74.4%)	0.95%	NS
LGA	576 (8.1%)	12 (14.6%)	2.08%	$P< 0.05$

NS: not significant

TABLE 2. Associated clinical findings in 82 polycythemic infants

Finding	Number of affected infants	
Hyperbilirubinemia (Serum bilirubin > 12 mg%)	29	(35.3%)
Tachypnea (Respiratory Rate > 60/min.)	21	(25.6%)
Poor feeding	17	(20.7%)
Hypoglycemia (Serum glucose < 30 mg%)	13	(15.9%)
Transient oxygen requirement	6	(7.3%)
Plethora	4	(4.9%)
Necrotizing enterocolitis	3	(3.7%)
Death	1	(1.2%)
Seizures	1	(1.2%)
Other (Tremors, lethargy, irritability)	4	(4.9%)
No clinical findings	25	(30.0%)

Discussion

Neonatal polycythemia and/or hyperviscosity has been known to be associated with significant morbidity for more than a decade.[3] Virtually all infants with a hematocrit ≥65% are hyperviscous.[2] In most nurseries, viscosity determinations are not available as a routine clinical test. Therefore, hematocrits are relied on heavily for the diagnosis of the polycythemia/hyperviscosity syndrome.[10]

The incidence of polycythemia has been found to vary as a function of gestational age, the size of the infant relative to the gestational age, and the altitude at which the studies have been performed.[1] The incidence of polycythemia is the highest among infants who are born either small or large for gestational age,[1, 4, 5] a finding confirmed by our observations.

Prior to this report, polycythemia had not been observed in any infants born at less than 34 weeks gestation. We report 2 infants born at 32 and 33 weeks gestation with polycythemia. In Denver (altitude 1,612 m), the incidence of polycythemia was found to be 4% of the neonatal population screened,[5] while in Virginia ("sea level") the incidence was 2.2%.[6] Other reports have observed an incidence of polycythemia as high as 12%.[4]

The study population that we screened was more than 5 times larger than the next largest population group that has been reported thus far. The population we examined had a more diverse racial mixture than had any of the others reported. For these reasons, we feel that the 1.14% incidence accurately reflects the incidence of polycythemia in the newborn.

Clinical manifestations of polycythemia include:

(1) Cardiopulmonary findings including cyanosis, tachypnea, cardiomegaly, hypoxemia, apnea, and evidence of persistent pulmonary hypertension;

(2) Central nervous system manifestations such as feeding difficulties, lethargy, tremors, and seizures;

(3) Necrotizing enterocolitis;

(4) Plethora;

(5) Hypoglycemia;

(6) Hyperbilirubinemia.

These manifestations appear to be related to the altered flow properties of "thick blood" (leading to organ dysfunction) and to increased blood breakdown. Of the polycythemic infants picked up by our screening, 70% manifested one or more of these clinical findings.

From a large screening population, we have attempted to delineate the salient characteristics of neonatal polycythemia. Routine screening for this condition appears to be warranted as a part of normal neonatal care.

REFERENCES

1. Polycythemia and Hyperviscosity in the Neonatal Period. In Oski FA and Naiman JL (eds.): Hematologic Problems of the Newborn (ed. 3), chapt. 4. Philadelphia, WB Saunders Co., Inc., 1982, pp. 87-96.
2. Black VD, Lubchenco LO: Neonatal polycythemia and hyperviscosity. *Pediatr. Clin. North Am.* 29:1137-1148, 1982.
3. Hathaway WE: Neonatal hyperviscosity. *Pediatrics* 72:567-569, 1983.
4. Ramamurthy RS: Neonatal polycythemia and hyperviscosity: State of the art. *Perinatol. Neonatal.* 3:38-40, 1979.
5. Wirth FH, Goldberg KE, Lubchenco LO: Neonatal hyperviscosity: I. Incidence. *Pediatrics* 63:833-836, 1979.
6. Stevens K, Wirth FH: Incidence of neonatal hyperviscosity at sea level. *J. Pediatr.* 97: 118-119, 1980.
7. Dubowitz LMS, Dubowitz, V, Goldberg C: Clinical assessment of gestational age in the newborn infant. *J. Pediatr.* 77:1-10, 1970.
8. Lubchenco LO, Hansman C, Boyd E: Intrauterine growth in length and head circumference as estimated from live births at gestational ages from 26 to 24 weeks. *Pediatrics* 37:403-408, 1966.
9. Armitage P: Statistical Methods in Medical Research. New York, John Wiley & Sons, 1973.
10. Ramamurthy RS, Brans YW: Neonatal polycythemia: I. Criteria for diagnosis and treatment. *Pediatrics* 68:168-174, 1981.

Effect of Vacuum Cleaning on House Dust Mites

Jennifer E. Massey and Douglas G. Massey, M.D.

● *A bedroom was vacuumed weekly. The house dust mites were separated from the collected dust, mounted, and counted. The quantity of dust and mites increased initially and then decreased progressively over subsequent weeks. Vacuuming should decrease house dust mite asthma if it is regularly performed.*

Asthma is more common in Hawaii than on the Mainland.[1-3] It is often caused by house dust mites. A mite is one of the small spider relatives.[4] They are so tiny that they resemble a tan speck of dust and can only be seen clearly under a microscope.

Asthma is a difficult disease to control and it can lead to death.[1] One of the authors (JEM) notes: "I have asthma from house dust mites. I must take an aerosol each day to control it. The best way to treat my asthma would be to remove the cause. However, mites are difficult to get rid of because of the ideal humidity and temperature for them in Hawaii. My physician has advised I could improve my asthma by vacuuming my bedroom each week."

Does weekly bedroom vacuuming reduce the amount of adult mites? If it does, mite asthmatics may have a better life in Hawaii.

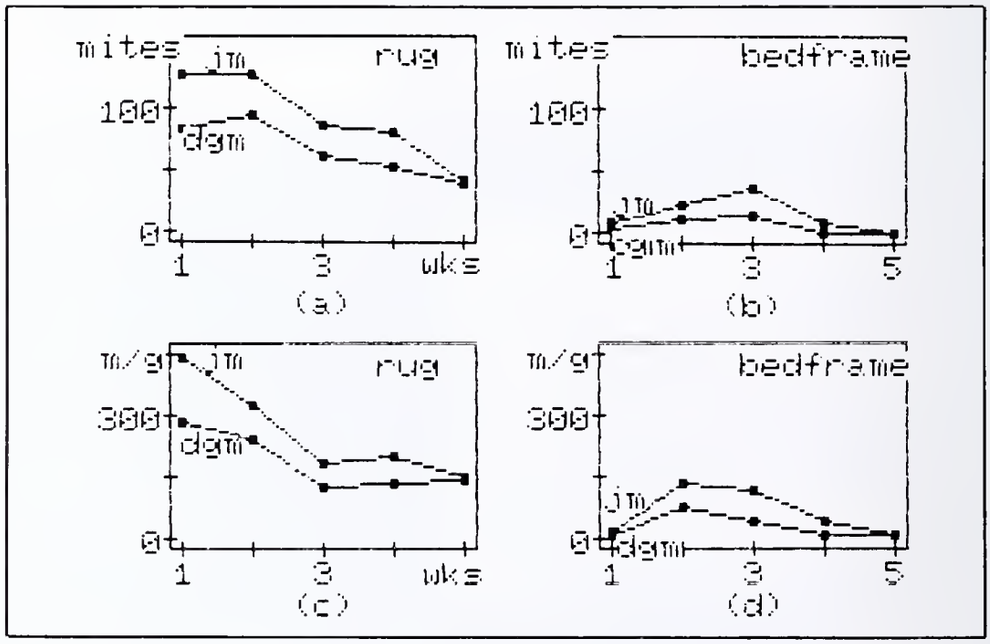
Background

The most common house dust mite in Hawaii is the European mite, *Dermatophagoides pteronyssinus.*[5] This is in contrast with the Mainland where the American mite, *Dermatophagoides farinae,* is found more frequently.[6]

D. pteronyssinus' life cycle from egg to egg is about 1 month in best conditions (25°C at more than 75% relative humidity). Mated females lay eggs 1 at a time up to 3 times a day. The house dust mites usually have 5 stages in their life cycle: egg (about 9 days), larva (about 5 days), protonymph (about 9 days), tritonymph (about 8 days), and adult (Wharton, 1976). They pass from the second stage to adult by molting, adding at each phase internal and external structures.[7]

Adults live up to 2 months at optimum temperature and humidity, and the female produces 200 to 300 eggs depending on the density of the population, the food available, and barring possible cannibalism. Although house dust mites are common in rugs and stuffed furniture, they occur mostly in beds where they find adequate food in human skin scales and organic debris. This debris comes from material transformed mostly by fungi. The mites also can extract water from the air; water is important to them because it accounts for 80% of their body content.

In European countries, house dust mites are found all through the year but show a seasonal increase in population in June and July. In Hawaii, they increase in December, January, and February.[8]



LEGEND FOR FIGURE

Mites from weekly vacuuming. M/g — mites per gm of dust. (a) and (c) — Decrease in mites and mites/gram from rug. (b) and (d) — Increase and then decrease in mites and mites/gram from bed frame. Note differences in mites counted by the 2 investigators.

Methods

One bedroom was examined in a house of wood on a cement slab, surrounded by shrubbery and trees, one block from the ocean. It was not air-conditioned. All technics were performed by JEM.

Sampling: Samples of dust were taken weekly in October and November 1983 from a rug (64 x 89 cm; 25" x 35") and a bed frame. The bed frame was chosen as the site of sampling because the mattress and boxspring were enclosed in an anti-allergen rubberized cover.

Each area was thoroughly vacuumed for 3 minutes using a Kenmore (Sears, Roebuck Co.) canister vacuum cleaner

TABLE. Weekly count of house dust mites from one rug and one bed frame in Hawaii

Source		10/15/83 Rug	10/15/83 Bed	10/22/83 Rug	10/22/83 Bed	11/2/83 Rug	11/2/83 Bed	11/8/83 Rug	11/8/83 Bed	11/14/83 Rug	11/14/83 Bed
Gross wt.	g	25.81	24.92	25.07	25.73	25.62	24.82	25.92	25.57	24.78	25.43
Minus dust	g	25.52	24.54	24.68	25.56	25.14	24.51	25.52	25.36	24.50	25.31
Net dust	g	0.29	0.38	0.39	0.17	0.48	0.31	0.40	0.21	0.28	0.12
No. of slides		12	3	16	4	10	5	11	4	4	2
No. of mites	JM	129	7	127	23	87	36	80	9	42	1
	DGM	82	3	95	12	61	13	54	1	39	1
Mites/	JM	445	18	325	135	181	116	200	43	150	8
g dust	DGM	283	8	244	71	127	42	135	5	138	8

From the Research Department, Kuakini Medical Center, Honolulu, and the Department of Medicine, John A. Burns School of Medicine, University of Hawaii.

Accepted for publication June 1984.

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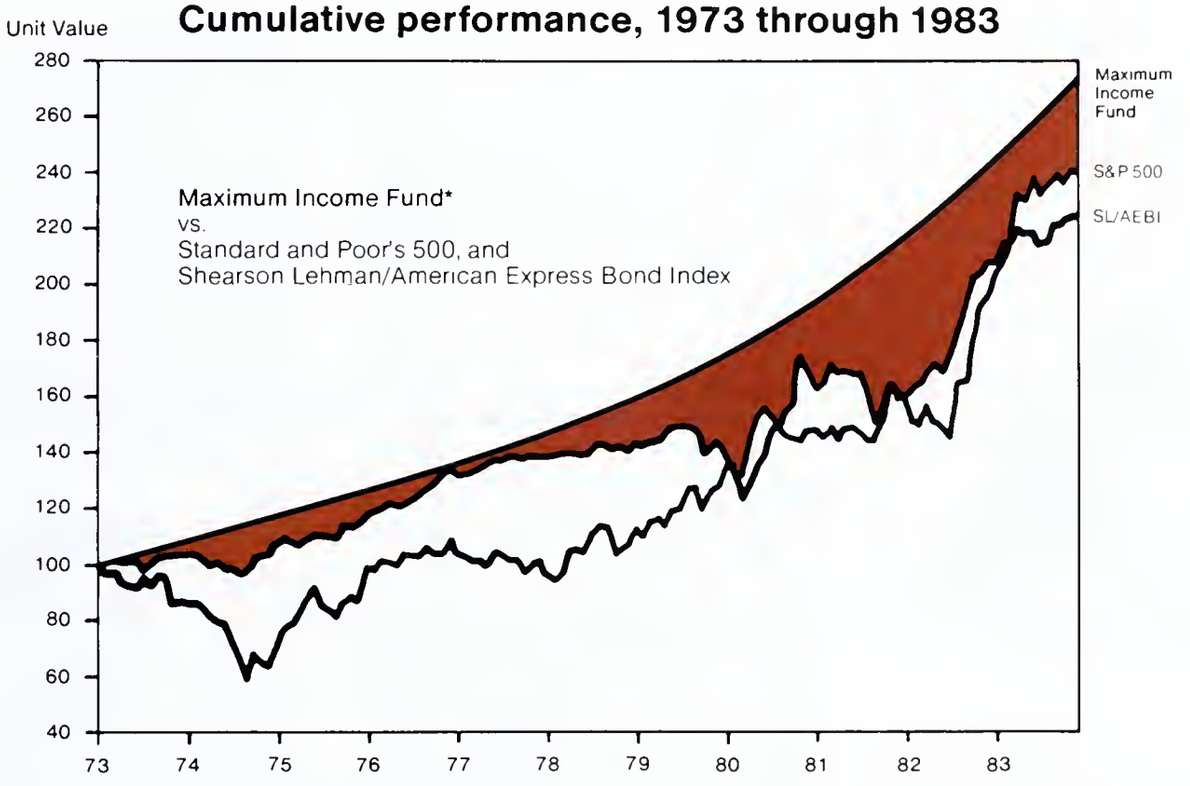
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equipped with a special dust-collecting attachment containing a collecting sleeve made of a 2'' long plastic tube closed at one end by a fine screen.[9] The collecting sleeves then were sealed in individual plastic bags with wire twists and labeled with date and site.

Weighing: Each dust sample with collecting sleeve, bag, twist, and label was weighed 3 times on a precision balance (Sartorius), and the mean weight in grams recorded. The sample was subsequently re-weighed 3 times without the dust, and the mean weight calculated.

Extracting: The mites were extracted per Furumizo (1976). The contents of the collecting sleeve were emptied in a coarse sieve (No. 40), placed upon a finer sieve (No. 375), and rinsed with 50% alcohol. The plastic bag also was rinsed with alcohol to pick up any mite that might have escaped. Water then was sprayed on both sieves. The residue in the finer sieve containing the mites was washed into a beaker with alcohol.

To separate mites from alcohol, a filter paper was put in a flat perforated porcelain funnel connected to a water vacuum pump. The mite-alcohol mixture was pipetted slowly on the filter paper; the alcohol was aspirated by vacuum, leaving the mites on the paper. Beaker and pipette were rinsed with alcohol to remove any mites. The filter paper was then put in a petri dish, covered, and labeled with a code.

Mounting: The coded filter paper was searched under microscope independently by 2 observers. When a mite was found, it was picked up with a small needle dipped in Hoyer's medium and put on a glass slide in a drop of Hoyer's medium. A cover slip was added after 15 to 20 minutes. The slide was heated with a match for 3 seconds to spread the medium and to dry it faster. The slide was labeled with a code.

Counting: The mites were counted on each slide by the 2 observers independently. One observer (JEM) counted any adult mite, even if missing one or more legs; the second (DGM) counted only intact 8-legged adult mites. The number of mites per gram of dust was calculated for comparison.

Results

For each date and site, the mean gross weight of the collecting sleeve with and without dust, plastic bag, twist and label, the net dust weight, the number of slides prepared from each sample, the number of mites counted by each observer, and the calculated number of mites per gram of dust collected in 3 minutes were recorded (see Table).

The dust was unusual in that it contained a large quantity of sand. Dust quantity and mite number rose initially and decreased by the final week. The mites per gram of dust decreased.

Comparing the 2 sites, the rug had more dust and mites than the bed frame (see Figure). At the bed frame the mites and mites per gram of dust rose initially and then fell. Rug dust also rose but returned to initial levels whereas mites and mites per gram of dust progressively decreased.

The first observer (JEM) always counted more mites than DGM. However, the findings of both follow the same trend (see Figure).

Discussion

It is shown that weekly vacuuming of a bedroom decreased the number of adult house dust mites. This simple procedure involving only 6 minutes a week may be helpful to asthmatics. However, it seems that it should be regularly performed, as erratic vacuuming might increase the numbers.

On the bed frame, an initial increase in the number of mites was observed from the first to the third week, and then a decrease. This initial increase was perhaps due to the mobilization of mites from surrounding areas or to a real increase in population by allowing more larva and nymphs to reach maturity.

In the rug, the number of mites decreased steadily from the first 2 weeks. This suggests that the number of mites can be reduced in rugs by weekly vacuuming but it is unknown if a certain number persist.

A limiting aspect of the study is the single bedroom studied for a short period. However, this study has not previously been done in Hawaii and is adequate as a pilot investigation. The number of mites counted by JEM differed as compared to DGM. This was expected since the former counted not only the 8-legged adult mites as did the latter, but also those missing 1 or more legs.

ACKNOWLEDGEMENTS

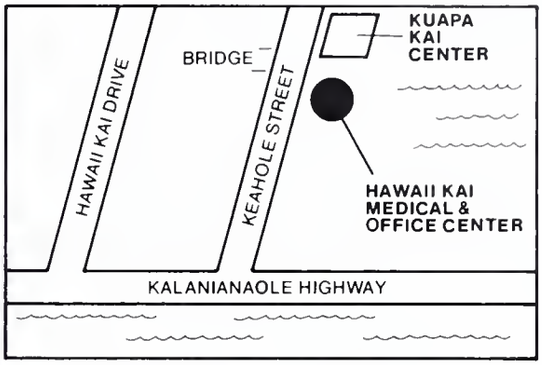
The authors thank Dr. James Lumeng for the use of his microscope; the Kuakini Medical Center laboratory for the Sartorius balance; and Mrs. G. Tuthill for encouragement.

REFERENCES

1. Myers WA: Incidence of allergic diseases in a pediatric practice in Honolulu, Hawaii. *Ann. Allergy* 19:1161-8, 1961.
2. Viele M: Prevalence of asthma-hay fever on Oahu. *Chron. Dis. Newsletter,* Hawaii State Department of Health 5:1-5, Sept. 1968.
3. Weiner B: Prevalence of asthma on Oahu. *Chron. Dis. Newsletter,* Hawaii State Department of Health 6:3-7, Dec. 1968.
4. Encyclopedia Britannica. Mites. Encyclopedia Britannica, Inc., William Benton Publisher, Chicago. 15:601-602, 1970.
5. Nadchatram M, Fournier-Massey G, Gordon BL, Massey DG: House dust mites in Hawaii. *Ann. Allerg.* 46:197-200, 1981.
6. Wharton GW: House dust mites. *J. Med. Ent.* 12:577-621, 1976.
7. Furumizo RT: The biology and ecology of the house-dust mite *Dermatophagoides farinae* Hughes 1961 (Acarina: Pyroglyphidae). Ph.D. Dissertation, University of California 143 p., 1973.
8. Sharp JL, Haramoto FH: *Dermatophagoides pteronyssinus* (Trouessart) and other acarina in house dust in Hawaii. *Proc. Haw. Entol. Soc.* 10:538-539, 1970.
9. Furumizo RT: Collection and isolation of mites from households. *California Vector Views* 22(3):19-27, 1976.

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Over the Editor's Desk

Harry L. Arnold Jr., M.D.

Eye specialists take note: An irrigation/aspiration pack with an adjustable, disposable hand-piece is announced by Innovative Surgical Products of Santa Ana, Calif. Rowena Andrews at (818) 986-5511 can give you details. The whole set is $61, and the hand-pieces are $25 if bought separately.

* * *

"Pulmonary Medicine and Office Spirometry for the Primary Care Physician" will be taught November 16-18, 1984, at Vacation Village Resort, San Diego, Calif., by the CME office of the University of California-San Diego. Fee is $295 for physicians, $195 for others. Write Office of CME, UC San Diego School of Medicine, M-017, LaJolla, Calif. 92093, or phone (619) 452-3940.

* * *

The same institution will offer a course in brain injuries in infants and children at the Holiday Inn Embarcadero, San Francisco, March 7-9, 1985.

* * *

Sudden infant death syndrome (SIDS) became the leading cause of postneonatal mortality in the late '70s, Muin Khoury et al. reported in JAMA for July 20. Better recognition of it may be a major reason why. Overall postneonatal mortality declined dramatically: among black infants, by nearly half.

* * *

Children with leukemia in remission may be safely and effectively immunized against varicella, say Anne A. Gershon et al.; vaccine reduced the attack rate from 90 to 18 percent among 21 children so vaccinated, and all 4 had mild attacks.

* * *

Brentwood Instruments offers the EZ Scan 200, aka the Cardimax FX 102 ECG, book-size, under 4 pounds, Japanese-made, it performs a 12-lead ECG, adjustable to from 1 to 10 seconds per lead. If you're interested, call James Obermayer at (213) 618-9488 for details.

* * *

Coughing? A pleasant-tasting chewy product, Mediquell Chewy Cough Squares, has been introduced by Warner-



Left to right: Audi 5000S Wagon, Porsche 944, Porsche 911 Carrera Targa, Porsche 911 Carrera Cabriolet, Audi 4000S, Porsche 911 Carrera Coupe, Porsche 928S, Audi 5000S.

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* * *

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* * *

Del Mar Avionics (1601 Alton, Irvine, Calif. 92714) announces a new low-priced (you'll have to ask them *how* low) Holter counter, the Model 100 CardioExpress Holter Analyzer. They say it "presents user-friendly messages"!

* * *

A new endometrial biopsy curette with finer teeth, in 2-, 3-, or 4-mm sizes, is announced by Amko, 41 Oak Avenue, Bellmawr, N.J. 08031.

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MOP-UP, a product for mopping floors and exterminating roaches, is now available in premeasured dissolvable packs, which might be good news for your workers' compensation insurance carrier. Ask R. Value Inc., Box 2335, Smyrna, Ga. 30081.

* * *

Garry Wheeler et al. from the University of Alberta reported in JAMA that running 40 miles a week reduces prolactin and testosterone levels by a significant amount.

* * *

A free packet of technical performance data on the "ASTRA" Systems Enzyme tests—AST, ALT, CK, AP, LD, GGT—is available from Beckman Instruments, 2500 Harbor Boulevard, Fullerton, Calif. 92634.

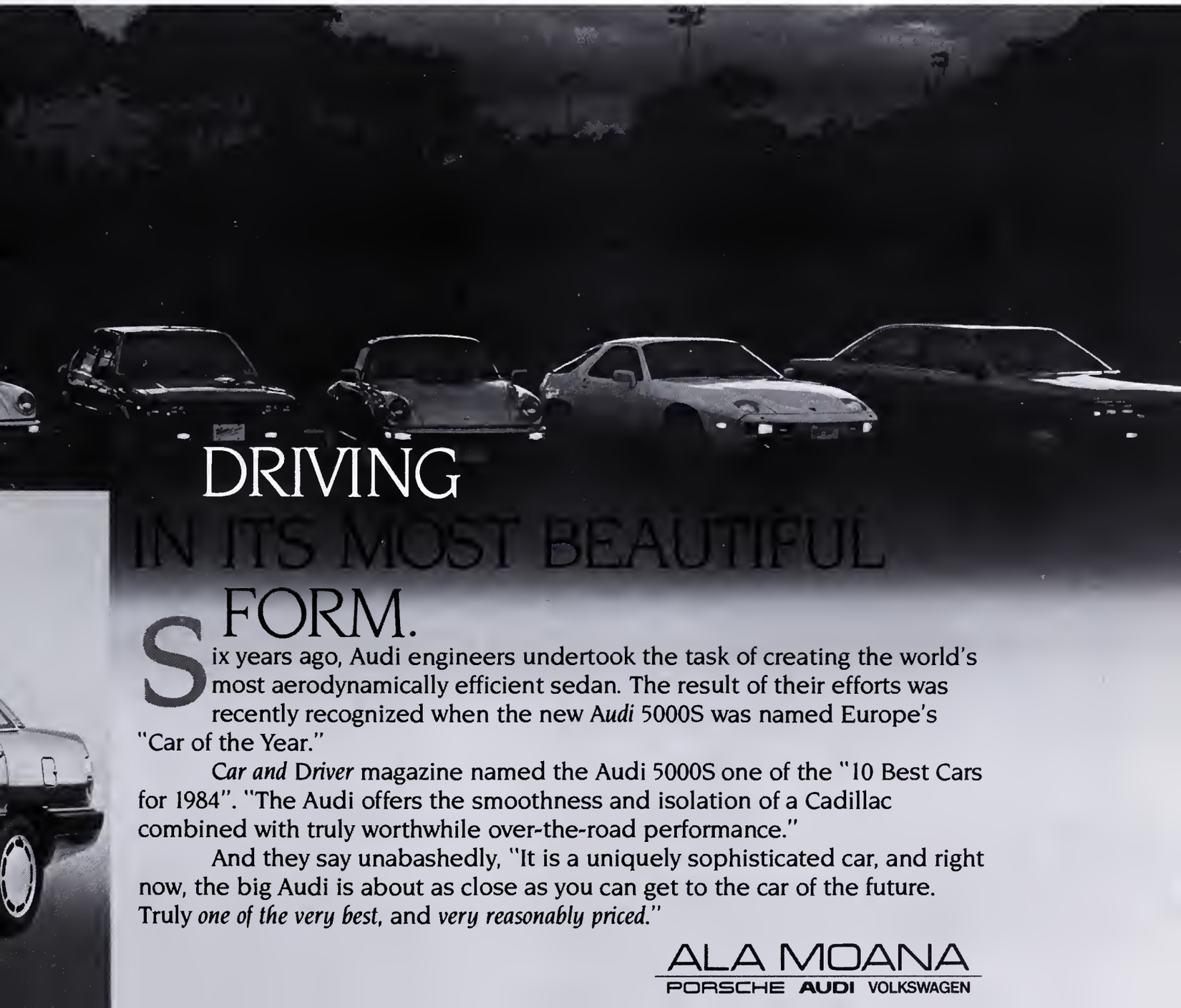
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IgE and $IgG_{1, 2, 4}$ in Desensitization of Pollen Asthma

Yu Kun Chien, M.D.,* Peking; and F. Anfosso, Ph.D.,** J. Charpin, M.D.,*** Marseille

● *Parenteral desensitization of asthmatics is time-consuming, often ineffective, occasionally dangerous. Ability to recognize those who will benefit from this therapy would be an advantage. The subclasses of IgG in pollen-sensitive asthmatics were determined by Protein A-Sepharose CL-4B chromatography and Ampholine PAG plates during pollen desensitization. Successful desensitization was partially predictable on the pattern of falling IgE and rising IgG blocking antibodies.*

During the past 10 years, knowledge of IgE and IgG blocking antibodies has had a profound influence on clinical allergy. Major advances have been made in the pathophysiology, immunopharmacology, and immunotherapy of allergic bronchial asthma. Although elevation of IgE is usually found in those with immediate hypersensitivity reactions and a rise in IgG blocking antibody after effective immunotherapy, the role of such antibodies remains obscure.[1]

Laboratory studies that can help to determine the triggers of asthma include the radioallergosorbent test (RAST) for specific IgE and the RAST interference assay for IgG blocking antibodies.[2] The latter uses the same reagents employed for the measurement of IgE antibody, but the antiserum to IgE is specific for the heat-labile IgE Fc determinants.[3] The content of IgG subclasses ($IgG_{1, 2, 4}$) in patients' sera can be determined by chromatography using Protein A-Sepharose and pH gradient elusion.[4, 5]

We now report the use of the RAST and the RAST interference assay with chromatography to determine IgG subclasses in 28 asthmatic patients before and during desensitization to pollen allergy.

TABLE 1. IgE antibody activity by RAST testing in pooled serum in 28 subjects

Sample	Percent of counts bound		Bound activity
	Range	Mean	%
Initial	20.20-24.35	24.28	100.00
56°C, 0.5 hr.	12.37-13.06	12.72	52.38
56°C, 1.0 hr.	3.09- 3.85	3.33	13.71
56°C, 2.0 hrs.	1.33- 1.46	1.39	5.72
56°C, 3.0 hrs.	1.00- 1.40	1.20	4.94

Methods

Patient sera: Sera was taken from 28 pollen-sensitive asthmatics before and at 2, 4, 6, and 8 months of specific pollen immunotherapy. Samples were divided into 2 parts: One was heated at 56°C for 4 hours to destroy heat-labile IgE Fc determinants as described by Gleich (1981); the other was chromatographed on a column of Protein A-Sepharose to separate the $IgG_{1, 2, 4}$.[5]

Sepharose chromatography: One ml of serum was filtered through a 0.45 filter (Millipore Corp.) and processed with Protein A-Sepharose CL-4B (Pharmacia Fine Chemicals) at room temperature (1.5 g of Sepharose yields about 4.25 ml of gel containing 3 mg of Protein A/ml). It was packed into a 1.0 ml syringe to give a 1.0 ml volume. A flow of 12 ml/hr was maintained. The column was equilibrated with 0.02 m phosphate buffered saline (PBS), pH 7.0. When the sample was sufficiently washed with PBS, it was then eluted with 0.1 m HCl-Glycine buffer (pH 3.0). An aliquot of 2.0 ml was collected in each tube and fractions were determined with an ultraviolet spectrophotometer, JY 201.

IgG subclass determinations: $IgG_{1, 2, 4}$ analysis of serum and column fractions were performed by LKB Ampholine PAG plates laid on a cooling plate with:

1. Anode-electrode solution (1 m H_3PO_4) and cathode-electrode solution (1 m NaOH) at pH 3.5-9.5.

2. Anode-electrode solution (0.1 m glutamic acid in 0.5 m H_3PO_4) and cathode-electrode solution (0.1 m B-alanine) at pH 4-6 as in routine work.

Paper allergen discs: We used lyophilized "Alyostals," each containing extracts of 5 grass pollens in 5% W/V distilled water (Laboratoire des Stallergenes 94260 Fresnes, France). Each vial of Alyostal was added to 1 ml of re-distilled water, 2 ml of sodium

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Accepted for publication May 1984.

Ed. Note: We are indebted to our Assistant Editor, D.G. Massey, for arranging for the publication of this paper. Dr. Massey, a Professor of Medicine at the University of Hawaii, spent a recent sabbatical at the Centre de Recherches in Marseille. The patients studied were in France. Dr. Chien of Peking, after work in Marseille, analyzed the data and compiled this paper after her return to China.

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bicarbonate buffer solution, 0.1 m, pH 9.2, and coupled with a 5 BrCN activated paper disc. Each tube was capped and rotated in a mixer at 4°C for 48 hours. It was then washed 3 times with 0.1 m sodium bicarbonate buffer, pH 9.2; then once with 0.05 sodium bicarbonate ethanol, pH 9.2, for 2 hours; then washed 3 times with 0.1 sodium acetate buffer, pH 4.0; and finally 3 times with RAST buffer solution (Pharmacia Diagnostics AB, Upsala, Sweden).

RAST test: Fifty microliters of test serum was pipetted onto an activated paper disc in duplicate, incubated for 3 hours, washed 3 times with 0.9% NaCl solution; then 50 ul of anti-IgE-1251 (5 u Cim 0.4 ug) (Pharmacia Diagnostics AB, Upsala Sweden) was added and left overnight.

After 3 weeks with normal saline, bound radioactivity was determined by a gamma counter. Results were expressed as a percentage of the total counts found.

RAST interference test: Test sera and chromatography-purified IgG sub-classes were heated at 56°C for 4 hours; then a mean of 30 ul (25-50 ul) of the resultant sample was pipetted onto a sensitized disc paper in a plastic tube and kept overnight at room temperature. After washing once with RAST buffer solution, 50 ul was added from the serum pool. Following a 3-hour incubation, each tube was washed 3 times with normal saline and 50 ul of radio-labeled anti-IgE was added, incubated, and washed as before. RAST interference activity was determined. The percentage interference was calculated by equation.[3]

Results

Serum pooled from the 28 patients was heated at 56°C for 0.5, 1, 2, and 3 hours and IgE activity was measured by the RAST test. The IgE activity decreased from 53.38% at 0.5 hour to 4.9% at 3 hours (Table 1).

The results of the RAST for specific serum IgE and of the RAST interference assay for $IgG_{1, 2, 4}$ blocking antibodies before and during treatment of the patients are shown in Table 2. The finding that heated serum was different from chromatograph-purified IgG indicates which sera contains more or fewer blocking antibodies. On the other hand, there was little difference in the antibodies before and during treatment, indicating that the immune response was considerably less in some patients. For example, the serum of one patient (SD) desensitized with pollen extract, contained IgG blocking antibodies which interfered with IgE antibody in the interference RAST test (Fig. 2).

Our data shows that with several months of immunotherapy, the greater the reduction of IgE antibody activity, the greater the elevation of IgG blocking antibodies. This change in IgE and IgG blocking antibody level was more variable in some patients.

TABLE 2. Specific serum IgE and blocking antibodies before and during immunotherapy in selected pollen sensitive asthmatics

Patient	Desensitization state		RAST %	RAST interference Heated serum %	Fresh serum %
BN	Initial		24.87	24.37	30.08
	After	2 months	20.52	23.84	28.30
		4 months	23.66	25.25	28.84
		6 months	24.89	23.62	28.43
		8 months	20.01	23.38	27.94
FL	Initial		26.72	26.62	29.25
	After	2 months	29.04	17.78	30.25
		4 months	31.09	27.14	27.18
		6 months	23.60	16.68	27.97
		8 months	35.26	21.01	31.64
CB	Initial		9.19	26.46	31.50
	After	2 months	14.61	24.73	32.24
		4 months	8.77	28.37	30.26
		6 months	9.33	25.53	28.18
		8 months	10.23	23.37	31.96
LP	Initial		32.86	25.30	26.51
	After	2 months	30.86	25.70	25.15
		4 months	35.85	22.68	26.74
		6 months	32.91	21.17	23.90
		8 months	29.59	23.39	28.89
DC	Initial		23.86	26.81	29.63
	After	2 months	21.19	26.20	30.64
		4 months	22.01	29.25	30.42
		6 months	11.52	26.84	30.19
		8 months	15.50	27.30	30.13
Pooled Serum				33.99	

Discussion

We have shown a relationship between IgE and IgG blocking antibodies with desensitization. There was suppression of specific IgE and stimulation of IgG antibodies. It is possible that the TS cells could selectively inhibit the IgE helper cells but not affect the generation of TH cells.

Thus, the relationship between clinical improvement and increase in the levels of IgG antibodies and/or decrease in IgE antibodies in allergic asthma can be determined. This could modify the treatment of such patients.

The introduction of such diagnostic procedures as the RAST test has simplified the diagnostic work-up and increased overall precision in allergic disorders.

By using radioimmunoassay, it has become possible to determine the concentration of total IgE and of specific IgE antibody. In one study of asthma it was found that patients with intrinsic asthma had the same or lower IgE levels than normal controls, whereas patients with extrinsic allergic asthma had, on the average, 6 times higher IgE levels.[7] About two-thirds of the patients with allergic asthma had IgE concentration above the normal value. Specific IgE represented a high percentage of this total IgE. In some patients as much as 50% of the IgE could be recovered as specific antibody.[8]

In addition, blocking antibodies are often present which are protective in some allergic diseases. Measurement of such blocking antibodies can be by skin titration (Loveless 1940, Connell 1963, 1964), leucocyte histamine release (Lichtenstein 1968), radioimmunoprecipitation (Sobotka 1976, Paul 1978) and solid radioimmunoassay (Shimiza 1978). We have used yet another which can measure precisely the concentration of IgE antibody and purified IgG blocking antibodies using the same reagents as for the RAST with satisfactory results.

ACKNOWLEDGEMENTS

The authors wish to thank Dr. G. Alcarraz and his patients for sera, and Dr. D.G. Massey for translation aid.

REFERENCES

1. Rose B, Hogg JC, and Macklem P: The Pathogenesis of Bronchial Asthma. In Max Samter (Ed.), *Immunological diseases.* Vol. 11, p. 852, 1978.
2. Wide L, Bennich H, and Johansson SGO: Diagnosis of allergy by an *in vitro* test for allergen antibodies. *Lancet* 2:1105, 1967.
3. Gleich GJ, Zimmermann EM, Martin C, and Yunginger JW: Measurement of IgG blocking antibodies by interference in the radioallergosorbent test. *J. Immunol.* 126(2):575, 1981.
4. Duhamel RC, Schur PH, Brendel K, and Meezan B: *J. Immunological Methods* 31:211, 1979.
5. Qian YK, Anfosso F, and Charpin J: Evaluation of the quantity of IgG subclasses in patients with allergic disease. In Press, 1981.
6. Goosen PCM, Van Beekhnizen S, Droogh C, and De Lange G: *J. Immunological Methods* 40:339, 1981.
7. Johansson SGO: Raised levels of a new immunoglobulin class (IgND) in asthma. *Lancet* 2:951, 1967.
8. Johansson SGO: IgE and the New Understanding of Allergy. In Johansson (Ed.) *Diagnostic and Treatment of IgE-mediated Diseases* p. 21, 1981.



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About the time you receive this issue of the JOURNAL, those lucky people who had no prior commitments may be enjoying the special events program at the HMA annual meeting at Kauai Surf. A "first-ever" event, this special includes sunrise walks, tour of Grove Farm museum, AMA-ERF fund-raiser reception, M*A*S*H party (sounds like a real fun evening), and even a CME session titled "A Spouse's Role in Avoiding the Pitfalls of Medical Malpractice." **Joyce Chuang** of Lihue is commended for coordinating this program.

Annual Session—December 6

Plan on being there because this one is a winner. Guests of the Auxiliary will include **Billie Brady**, AMAA president, **Hazel Lewis**, executive director, and **Doreen Evert**, western regional vice president from California. At a discussion on contemporary moral problems in health care by philosophers Kenneth Kipnis and Lawrence Heintz, such topics as withholding treatment for handicapped newborns, terminal illness, abortion, "living wills" in Hawaii, and the Baby Doe issue will be addressed. The AMA-ERF boutique will feature quality crafts, preserves, and baked goodies.

Lilian Matayoshi, state chairman for AMA-ERF, is always looking for new ideas to raise funds: The hospitality room at Kauai Surf meeting includes *"omiyage"* (gifts to take home). Honolulu county Auxiliary members had a no-bake sale: They added up the amount it would cost to bake their favorite recipe, wrote a check, and, for each dollar received, got a gourmet recipe developed by super cooks of the Auxiliary.

As usual, **Bonnie DeJournett**, Honolulu Auxiliary program chairman, planned a great first-of-the-season opener in September, at the Honolulu Club. Titled "Young Physician Marriages — Some Major Concerns," speakers were **David Des Jarlais**, M.D., on interpersonal communication; **Russell D. Hicks**, M.D., on stress-induced use of drugs and alcohol; and Thomas Glass, Ph.D., on burn-out. (Personal note: Rather than "burn-out," I like the term "unplugged", used by a positive thinking poet, Rik Masten.)

Annual Meeting Footnote

Better hurry if you want an invitation-only house tour of a beach estate and three other homes on December 7, 9 a.m. to noon. Call **Kathy Lipp** at 262-4893 by November 23.

Sue Pinkerton



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Clinical Pathologist's Easy Chair

Francis H. Fukunaga, M.D.

Rheumatic Diseases

The rheumatic diseases, covering a wide range of connective tissue disorders, include rheumatoid arthritis, juvenile rheumatoid arthritis, systemic lupus erythematosis (SLE), scleroderma, Sjogren's syndrome, and the mixed connective tissue disease (MCTD) that shows features of SLE, scleroderma, and polymyositis. These diseases are autoimmune and produce a variety of antibodies, the measurement of which provides a tool for diagnosis.

The production of auto-antibodies to nuclear constituents is common. These antibodies are directed against DNA, RNA, histones, non-histone proteins and other unidentified nuclear antigens. Measurement of these antinuclear antibodies (ANA) by immunofluorescence provides a sensitive but non-specific screen for patients with connective tissue disease. The ANA is positive in about 97% of untreated SLE, 68% of Sjogren's, 40% of scleroderma, 20% of juvenile chronic polyarthritis, and 30% of rheumatoid arthritis. In other diseases, with some drug therapy such as INH, procainamide, and hydralazine, and occasionally in apparently healthy individuals, especially older people, a positive ANA reaction may appear. Drug-induced SLE characteristically develops antibodies to histones without other types of ANA. High titers are better indicators of rheumatic diseases; low titers occur in both rheumatic and non-rheumatic diseases.

The pattern of fluorescence may suggest the type of antibody. The homogeneous or diffuse pattern where the entire nucleus is evenly fluorescent suggests antibodies against histone and DNA-histone complexes. This diffuse pattern is seen in all connective tissue diseases and is important only if the titer is greater than I:160. The peripheral or rim-type of fluorescence suggests antibodies to native DNA (nDNA) seen in SLE. There is a fluorescent sharp outer edge and a dark non-fluorescent center. The speckled pattern indicates antibodies to non-histone acid nuclear antigen and is characterized by an even distribution of multiple round pepper dots. This pattern is primarily seen in scleroderma and Raynaud's and generally not in SLE.

The nucleolar pattern indicates antibodies to RNA and shows a large round smooth fluorescence. It is seen in scleroderma and not usually in LE or rheumatoid arthritis. The thread pattern consists of a network of thick threads and clumps and is seen in SLE but not usually in rheumatoid arthritis.

Other screening tests for antinuclear antibodies include the LE cell test and latex test, both of which are not as sensitive as the immunofluorescent method. The latex test is positive in about 60% and the LE cell test in about 70% of untreated SLE. The LE cell test is a tedious procedure but the percentage of positives increases with repeat testing. An antibody to DNA histone present in SLE and other connective tissue diseases causes alteration of the nucleus which is phagocytized by polymorphonuclear leukocytes to produce the characteristic LE cell.

The anti-DNA test is more specific but less sensitive than the ANA for SLE. There are two groups of antibodies to the DNA that have clinical relevance. The antigens are native or double-stranded DNA (nDNA or dsDNA) and denatured or single-stranded (ssDNA). The antibodies to the nDNA are highly specific for SLE, although there may be a rare positive in rheumatoid arthritis. The level of these nDNA antibodies fluctuate with the disease activity and is very low or absent in remission. The substrate used in this test must be pure and free of single-stranded antigens. A good antigen is *Crithidia luciliae,* which has a pure circular double-stranded DNA.[1] Antibodies to ssDNA are more common in SLE (than to nDNA), but they often are found in other connective tissue diseases (about 30% of rheumatoid arthritis, chronic active hepatitis, drug-induced SLE, and scleroderma).

There are soluble cellular antigens that do not contain DNA antigens in patients with connective tissue diseases. Unlike the histones that are soluble basic nucleoproteins complexed with DNA, the non-histone nucleoproteins are acidic proteins. The non-histone nucleoproteins include ENA (extractable nuclear antigen), Sjogren antigens, SCL-1, and PM-I. The ENA are nuclear ribonucleoprotein complexes and the two important ones are Sm and RNP. Anti-Sm is highly specific for SLE.[2] It is found in about 25% to 30% of SLE and not found in rheumatoid arthritis, Sjogren's, scleroderma, dermatomyositis, MCTD, nor in normal people. Anti-RNP is found in a variety of rheumatoid diseases and MCTD shows especially high levels of this antibody. Low titers may be seen in SLE, rheumatoid arthritis, and scleroderma. Both the anti-Sm and anti-nRNP titers tend to be stable despite fluctuations of the clinical disease.

The antibodies to nRNP and Sm often are associated together. The specific subset of SLE with a more benign course usually shows only the anti-nRNP.[3] If nRNP is present, there is a low incidence of renal disease and high incidence of Raynaud's phenomenon. Patients with anti-Sm develop mild nephritis and follow a benign course.[4]

Sjogren's syndrome is characterized by kerotoconjunctivitis, sicca, and/or xerostomia. It is commonly associated with rheumatoid arthritis (10-20%) and SLE (30%). Antibodies to SS-A and SS-B are seen in as many as 80% of cases.[5] SS-A is found in the nucleus and cytoplasm, and SS-B is found in the nucleus. About 70% have the SS-A antibody and 50% have the SS-B antibody. Anti-SS-A is seen in about 30% of SLE and other rheumatoid disease, while anti-SS-B is rare in other diseases and is highly specific for Sjogren's syndrome.

The SCL antigen was described in scleroderma and PM-I in polymyositis. Two antigens seen and often associated are: La, which is ribonucleoprotein of nuclear origin, and Ro, which is a cytoplasmic ribonucleoprotein. La is seen in about 10% of SLE and Ro in about 25%. Anti-Ro also is found in Sjogren's syndrome. In SLE patients with anti-Ro, there is a high incidence of photosensitivity rash and frequent positive RA latex tests. About 50% of these patients develop serious renal disease. Ro is antigenically related to SS-A, and La is antigenically related to SS-B.

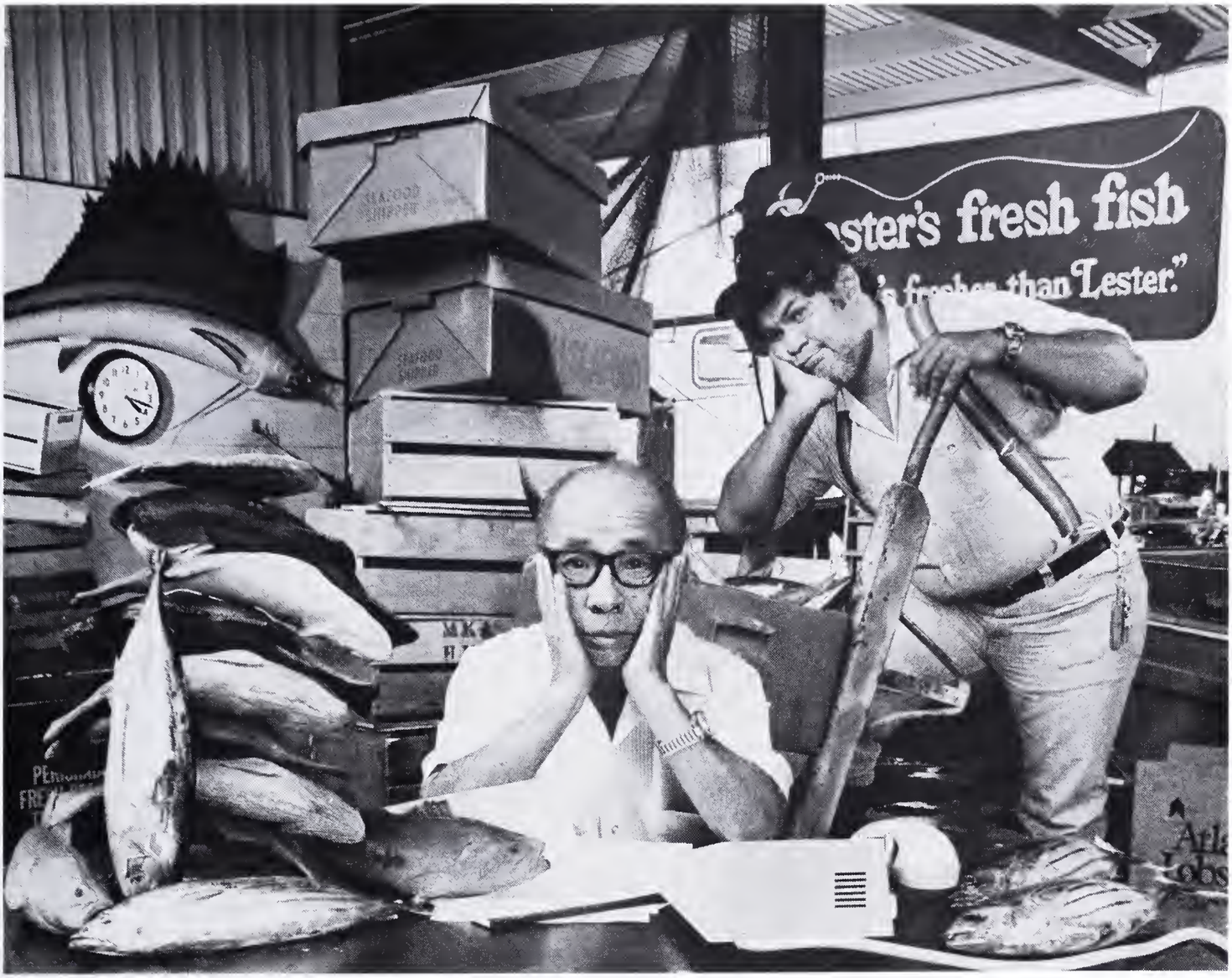
Rheumatoid factor (RF) is an antibody to IgG. IgM-RF is the class usually measured in the laboratory. If the factor is IgG-RF or IgA-RF, the test will be negative. The RA latex test is positive in about 75% of the cases, but may be positive in other diseases. About 30% of cases of rheumatoid arthritis have a positive ANA test.

If a rheumatic or connective tissue disease is suspected, the first test should be for ANA. The ANA is rarely negative in SLE, but is often negative in the other connective tissue diseases. The titer should be determined if positive, followed by tests for anti-DNA and the non-histone acidic nucleoproteins (Sm, nRNP, and SS-B). The anti-DNA is positive in about 50% of SLE, but a negative result is non-diagnostic.

Because of the overlap of symptoms and signs, any laboratory test result must be interpreted in conjunction with the clinical picture. Other non-specific tests include the erythrocyte sedimentation rate, complement, and C-reactive protein to assess the clinical status.

REFERENCES

1. Whiteside TL and Dixon JA: Clinical usefulness of the Crithidia luciliae test for antibodies to native DNA. *AJCP* 72:829-835, 1979.
2. Moses S and Barland P: Laboratory criteria for diagnosis of systemic lupus erythematosis. *JAMA* 242:1039-1043, 1979.
3. Notman DD et al.: Profile of antinuclear antibodies in systemic rheumatoid disease. *Ann. Intern. Med.* 83:464-469, 1975.
4. Farber SJ and Bole GG: Antibodies to components of extractable nuclear antigens. *Arch. Intern. Med.* 136:425-431, 1976.
5. Martinez-Lavin M et al.: Autoantibodies and the spectrum of Sjogren's syndrome. *Ann. Intern. Med.* 91:185-190, 1979.
6. Provost TT et al.: Antibodies to cytoplasmic antigen in LE: Serological marker for systemic diseases. *Arthritis Rheumatism* 20:1457-1463, 1977.



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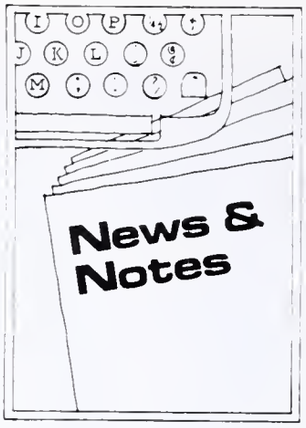


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Lecture Humor

From the COPD lecture by John Hodgkins of UC Davis: "One of the things that astounded me was the attitude physicians have toward COPD patients . . . In order to get a patient out of his hair, a Chicago physician recommended a West Coast environment. The COPD patient flew into smoggy San Bernadino and promptly landed in the ICU with status asthmaticus . . ."

Cartoon lampooning the cost of pharmacologic agents — Pharmacist to client: "The drug itself has no side effects, but the price may cause dizziness and fainting."

Instruction to patient: "Take one of these pills a half hour before you wake up in the morning . . ."

Physicians Speak Up

The following are excerpts from **John McDougall's** letter to the editor (July 28), titled "One Doctor's Second Opinion":

"Contrary to what your physician may be telling you, much of the heroics we put people through are not the miracles you are led to believe. Many patients are not told that: The $20,000 coronary artery bypass surgery in most cases does not save lives, and that nearly 100% of people who undergo this extensive surgery suffer brain injury, leaving greater than 15% with permanent detectable brain damage . . . Not only is mastectomy surgery ineffective in saving lives, but prostate surgery in almost every case is too late to extend for one more day the life of a victim of prostate cancer. Many other cancer therapies share this record of failure . . . The majority of people on blood pressure medication have a greater risk of suffering from side effects and complications from their medicine than any benefit gained from the drug-induced pressure-lowering effect of a prescription. Furthermore, as many as 85% could be rid of their medication and their high blood pressure if they would change their diet and get a little exercise. The same for adult onset diabetics; they suffer serious side effects from medication, and 75% can be freed from medication by a simple switch in diet and lifestyle . . . These are not just 'my opinions.' These statements are all scientifically backed by references, from the best medical journals in the world . . ." So says McDougall.

The San Diego massacre of 21 innocent people by one irrational man led **Grant Stemmerman** to reflect: "I think, however, it is appropriate to remind ourselves that there are men in Washington and Moscow who are devising plans for nuclear warfare that, if brought to fruition, will kill not 21 innocent people, but at least 10 million times that number. These strategists are not considered irrational . . . I hope that my government is pursuing the goal of nuclear disarmament with sincerity. I sense, however, that this is not the case. The best reassurance that I might have along these lines would be statements geared to discussion rather than confrontation . . ."

Neurologist **James Pearce,** director of the Sleep Disorder Center at Straub, testified as a defense witness that the 61-year-old prison food service manager accused of trading drugs for sex was impotent when tested because the accused did not have erection during REM sleep; i.e., the erections lacked sufficient strength and quality for normal sex.

Life in These Parts

Why "red"?

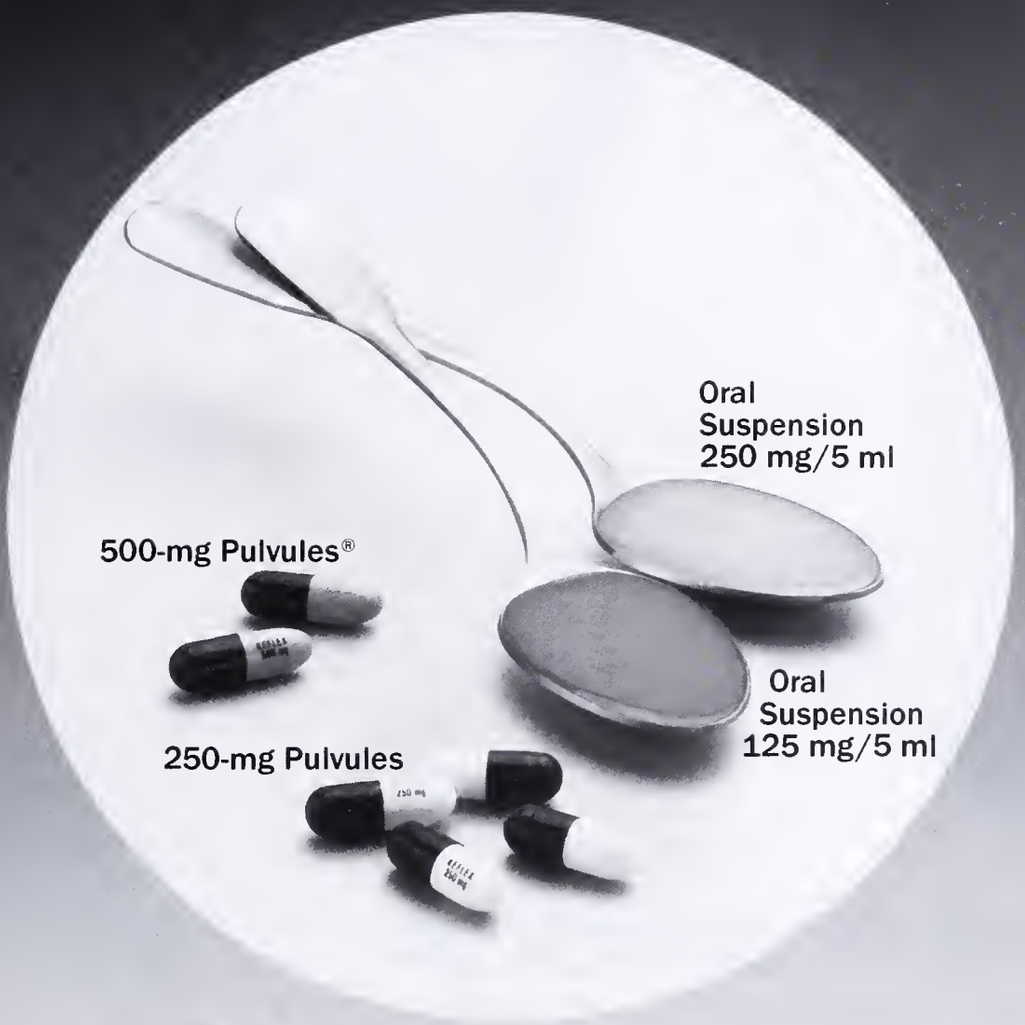
Our favorite color is pastel blue, but we drive a maroon Toyota Supra, and wear red golf shirts and red socks to match . . . Then why red? The choice is a purely defensive ploy . . . Thus far we have not been rear-ended in traffic and on the golf course we feel more secure . . . Previously, we have twice been nearly decapitated by errant line drives and once hit on our right elbow, fortunately by a drive on its second bounce . . . Besides, this is our 61st year (the so-called "bad year" or *yaku doshi* by Oriental custom and one can't be too careful) . . .

From *Kamaaina quotes* (Honolulu magazine, August 1984): **Ed Morgan** remembers this story from his days growing up in the country — Physician: "Is your wife incontinent?" Husband: "No, she going to da Mainland nex' month, but she no stay dere now."

"Sooey, the pet pig that the Hunky Bunch considers beautiful, recently had a chance for major stardom. The big porker was offered a role in 'Magnum,' but Representative Connie Chun and her husband, **H.H. 'Hunky' Chun** turned it down when they learned the filming would not take place on Sooey's home grounds . . . The good doctor and ex-nurse Connie felt that transporting the animal and then putting it through all that 'lights, camera, and action' stuff would shake up and excite Sooey much too much . . ." (Ben Wood's Hawaii)

It has been said that the Hawaiians, among all the ethnic groups in the na-

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tion, are the most highly susceptible to cancer, heart disease, and diabetes . . . **Dick Kekuni Blaisdell** believes that changes brought about in Hawaiian lifestyles and environment with the discovery and exploitation of the Islands by Europeans may be responsible. The diet of the common people in old Hawaii consisted primarily of taro, sweet potato, yam, banana, breadfruit, mountain apple, fish and other seafood including shellfish, limu, and an occasional fowl and coconut . . Pork and dog were not daily fare . . . One of the leading causes of ill health today is stress. The old Hawaiians were completely in harmony with nature . . . Health to them was a proper balance of harmony with nature . . . Modern Hawaiians are unhealthy because they fail to adapt to cultural shock, and never really successfully cope with cultural conflict and collective despair . . .''

Senator Dan Inouye delivered the University of Hawaii 1984 Ira Hiscock Lecture: ''I believe that as Medicare was inevitable in the early 1960s, a national health program is inevitable in our nation . . . the American Medical Association has concluded that doctors pay about $1.7 billion annually for malpractice insurance and that physicians suffer an annual productivity loss of $250 million — half of this because of early retirement precipitated by professional liability pressures . . .'' Dan and his staff recently took testimony that defensive medicine practices were costing our nation from $2 billion to $7 billion per year . . . Some experts feel that it could be as high as $15 billion . . .

With city health department chief **Anna Maria Brault**'s prodding, Mayor Anderson adopted a non-binding policy on smoking in municipal offices that gives preference to non-smokers whenever there is a conflict. The voluntary policy respects the rights of both smokers and non-smokers . . .

''Sup-Herb,'' which is supposed to contain only herbs and which has worked ''miracles'' on arthritics, was recalled when 2 separate laboratories in California showed that the pills contained indomethacin, hydrochlorothiazide, and diazepam. The pills were being sold by 833 people in Hawaii at $35 for a packet of 120. Loran Swensen, president of the Las Vegas marketing company, insists, ''They are still 'nature's finest.' ''

State Department of Health statistician **Thomas Burch** showed that, on Oahu, women living in Central Oahu gave birth to a higher average percentage of children with birth defects and that in the last 15 years Waialua and Koolauloa had the highest rates of birth defects, i.e., 12.8 and 12.3 per 1,000 live births. For the same period, Kauai ran a rate of 14.1, Hawaii 10.6, and Maui 10.3. The overall state rate is 9.1 . . .

On the Big Island, the ''grass'' is greasier . . . in February, ''Operation

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Wilt" was launched in which police sprayed diesel oil on marijuana patches on the 17,000-acre C. Brewer plantation . . . Hilo chest specialist **Benjamin Ono** was concerned about the possible health effects of smoking marijuana treated with the diesel oil emulsion . . . Despite widespread reports, the police are not using paraquat . . .

The HMA reported in March that it had received several reports of a "Dr. Gorman" or "Dr. Gordon" from the Masters & Johnson Clinic calling Oahu households about the need for a sex therapy clinic . . .

When India's Prime Minister Indira Gandhi ordered the Indian army to attack the Sikhs in their sacred Golden Temple in June, the hurt was felt even in Hawaii . . . Our friend **Birendra Singh Huja** and the small Sikh population in Hawaii was distressed and disappointed about the use of force in Punjab, the only place where the Sikhs hold a majority. Dr. Huja feels that Gandhi should resign and that her government is totalitarian in the disguise of a democracy . . .

Andy Schwartz, QMC emergency physician and president of the local chapter of the American College of Emergency Physicians, says "preventive medicine" means staying away from mopeds, among other things. Most of the 171 moped accidents that occurred here last year involved people from out-of-state. Fortunately no one was killed, but they suffered "road rash."

The Honolulu Advertiser obtained declassified documents that showed the military conducted open-air, simulated biological warfare experiments in Hawaii during the 1960s using three species of supposedly non-pathogenic bacteria, viz. *Serratia marcescens* (which is now regarded as "significantly" pathogenic), *Bacillus globigii* (which can cause eye lesions), and *E. Coli* . . .

Annabelle Fong, director of the university Office of Financial Aid and Student Services, says the scholarship situation is "zilch" for students in medical and nursing schools. College scholarships in health-related fields are nearly impossible to get because doctors and nurses are notoriously delinquent in repaying federal loans . . . Physicians have a delinquency rate of 13.2%, RNs with bachelor's degree 15.9%, and RNs with two-year training 28.3%. Presently, 30% of the med students at UH have some form of financial assistance, and further cutbacks would have a serious impact.

Miscellany

"What do you call 50 rabbits all backing up together?"

"A receding hareline . . ." (From our tennis-playing friend, Al)

Hors de Combat

When Honolulu physician **Lulumafuie Fiatoa** and his brother were sentenced to 4 months in prison for assault, Judge Patrick Yim said, "The fight was not a private feud somehow understandable and permissible because of the ethnicity of the defendants . . . There is no such thing. Society cannot tolerate private feuds." Judge Yim was referring to the fact that the victim and the defendants were all Samoan . . . Fiatoa says the stereotype of the violent Samoan has been around since Samoans first came to Hawaii . . . When asked why Samoans are considered violent, Fiatoa said, "Maybe my countrymen are just caught more often. Maybe they aren't any more abusive, but are more public about it. Maybe people from other cultures do their assaulting behind doors."

A Kauai circuit court jury found a rape victim and her husband partly responsible for her 1980 rape, but said a majority of the legal responsibility belonged to state mental health officials treating the rapist. The $365,000 rape award has the following percentages: The state 23%, psychiatrist **Blaich** 22%; psychiatrist **Snyder** 15%; psychologist **Holden** 14%; the victim 12%; and her husband 14%. Nishiie, the rapist, now is serving a 20-year prison term for the 1980 rape, but was on conditional release in that year from the state mental hospital where he had been committed for reason of insanity in an attempted murder case . . .

Hawaii pays the third highest medical bill per workers' compensation case among 42 states surveyed and ranks behind Washington, D.C., and Alaska . . . Auditor Clinton Tanimura has found that chiropractor costs make up 16% of the medical costs and researchers found that chiropractors have a higher average charge per visit than other health practitioners and the number of visits to chiropractors is substantially higher . . .

The Department of Health and Human Services is issuing new directories listing which doctors and medical suppliers accept Medicare rates as full payment for services . . . Secretary Margaret Heckler feels that the directories will help patients decide where to obtain medical care . . .

Speaking at a meeting of the Hospital Association of Hawaii earlier in the year, Walter McClure, president of the Center for Policy Studies (a Minneapolis policy research organization studying improved delivery and financing of health care), said that the new prospective payment system for Medicare offers incentives to hospitals to refuse care to the most severely ill patients, because these people will "overuse" hospital resources (more tests, longer stays in the hospital, etc.) and take in less sick people. "The problem is not with the hospitals or the doctors. It is in the way we pay them. Up to now, most people could go to any doctor or hospital and somebody else would pay them . . . The more the doctor or the hospital does for the patient, the more they get paid. We could improve medical



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The American Association of Physicians for Human Rights (AAPHR) needs your support. For information, write: AAPHR, Box 14366, San Francisco, CA. 94114. Local contact: Bob Bidwell, M.D., 3798 Anuhea St., Hon., HI. 96816.

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	Average No. Copies Each Issue During Preceding 12 Months	Single Issue Nearest Filing Date Sept. '84
A. Total No. Copies Printed (Net Press Run)	1,554	1,535
B. Paid Circulation		
1. Sales through Dealers & Carriers, Street Vendors & Counter Sales	5	10
2. Mail Subscriptions	1,319	1,339
C. Total Paid Circulation	1,324	1,339
D. Free distribution by mail, carrier or other means, samples, complimentary & other free copies	80	80
E. Total Distribution	1,404	1,419
F. Copies not distributed		
1. Office use, left over, unaccounted, spoiled after printing	150	116
2. Return from news agents	0	0
G. TOTAL	1,554	1,535

I certify that the above statements made by me are correct and complete.
(HMJ: 9/24/84) JONATHAN R. WON, Executive Director,
CPI56 Hawaii Medical Journal

care with 20 to 30% fewer doctors and hospitals . . ."

The Office of Technology Assessment reports that "there is substantial evidence to suggest that inappropriate use of medical technology is common and raises costs without improving quality of care. The report hits at overuse of coronary artery bypass surgery, ICU, renal dialysis (which now costs Medicare more than $1.8 billion annually) . . .

Steven J. Choy, psychological consultant to the state Child Protective Services, feels that "doctors have failed to report cases of child abuse because their biggest concern is the patient-doctor relationship." Most of the cases of child abuse are reported by teachers . . . Dr. Henry Kempe, who coined the term "battered chld syndrome," once said, "The rich can buy their way out of a crisis." Kempe urged physicians to take a more active role in reporting neglect and abuse because he and his colleagues had discovered that at least 40% of battered child cases continued until severe injury or even death resulted if the abusive adults did not receive appropriate therapy.

Kailua psychiatrist **Jay Jackman**, who obtained a permanent dismissal of his Medicaid fraud indictment, filed a $1.5 million circuit court lawsuit against the state and the two deputy attorneys general who prosecuted him.

The new spending cut/tax hike package bill approved by the Senate will: Add 35 cents to the cost of an average fifth of 86 proof liquor . . . Allow the cigarette tax to drop 8 cents a pack next year . . . Require Medicare recipients to pay higher premiums for a doctor's care . . . Freeze fees the government pays to doctors for treating Medicare recipients . . . Limit the number of tax-exempt bonds a state can issue . . . Stretch from 15 to 18 years the amount of time it takes for real estate investors to get tax breaks . . . Make it harder for businesses to get tax credits for using luxury cars . . . Repeal the 30% withholding tax now imposed on foreigners to invest in the U.S. . . . Lower the highway-use taxes on heavy trucks but raise diesel-fuel taxes to compensate . . .

The bill cuts $6.5 billion from Medicare and raises premiums for doctor visits (premiums will rise $1.40 a month in 1986 for a total of $16.80 for the year and $2.70 a month in 1987 or $32.40 for the year). The Medicare agreement freezes for 15 months the amount of reimbursement for treating Medicare patients.

Miscellany

We quote the following statistics from our favorite humorist, Erma Bombeck . . . "At Wit's End":

"We know that more people make love on Sunday than on any other day of the week.

"We know that the peak hours are 10 p.m. and 7 a.m. . .

"We know that more women sleep next to the wall than men . . .

"We know that men wearing boxer shorts are more likely to become fathers.

"We know that jogging increases sexual desires . . .

"We know that garlic is still the most effective form of birth control . . .

"We know that after 60 sex is termed 'interesting.'

"I would have been willing to bet that by this time, every single scrap of data regarding lovemaking had been fed into a computer and analyzed . . .

"Well, I was wrong. A team of researchers was curious that with all the love songs about the moon, did the moon really have an effect on the hours people made love?

"Husbands and wives filled out separate questionnaires, noting the precise time of lovemaking. Then researchers calculated the exact position of the moon at that time. The position of the moon made no difference whatsoever . . ."



Membership News. We welcome several new members to the chapter: **Izumi Kobashigawa** has transferred to Honolulu from California where he completed his family practice residency; he becomes an Active member. **Robert Carlile, Dawn Edelstein,** and **Anne Virnig** are new Student members.

Congratulations to new parents: **Barbara Kobayashi** and husband Kurt Schanzenbach on the birth of their son, David, on June 20, and to **Jim** and **Margaret Tsuji** who welcomed their third son, Thomas Yoshito, on July 5.

James Fleming's family was recently honored by the White House as one of nine "Great American Families." We congratulate them!

Aloha to **Edmund Schroeder** who has relocated on Guam.

Robert Hollison was re-elected to active membership after completing more than 150 hours of AAFP-approved CME.

Physicians' Survey Continued. Questionnaires #3 and #4 dealt mainly with office expenses and income. Here are the results: The office space per physician is an average 565 square feet; the median 700 square feet. The number of employees per physician averages 2.1; the me-

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dian 2.5; 14.1% have one employee or less; 2.8% have 3.1 or more. Physicians owning their office space amount to 73.9%; while 26.1% rent. The average monthly rent or mortgage payment is $880; the median $1,250. There are no improvement loans for 68.3% nor are such payments included in rent or mortgage payments; 20% pay a monthly $500 or less on improvement loans; 6.7% pay between $500 and $750; 3.3% pay $751 to $1,000; and 1.7% pay more than $1,000. Malpractice insurance is held by 88.6% of the respondents, while 11.4% have none.

Individual net income in 1983 (after deductible business expenses such as rent, employee salaries, auto, CME expenses, office supplies, retirement, contributions, etc.) averaged $50,227; the median was $52,500. Another 16.7% netted less than $30,000; 25.8% netted between $30,000 and $45,000; 30.39% netted between $45,001 and $60,000; 10.6% netted between $60,001 and $75,000; and 16.7% had a net income of more than $75,000 in 1983. For retirement plans, 25% made no contribution in '83; 38.2% contributed 10% or less; 27.9% contributed 11% to 20%; and 7.4% contributed more than 20% of their net income.

For time in practice, 27.1% have been in practice less than 5 years; 17.1% from 5 to 10 years; 11.4% 11 to 15 years; 7.1% 16 to 20 years; and 37.1% have been in practice for more than 20 years.

The CPT-4 codes used most frequently for follow-up visits were 90040 (45.3%) and 90050 (42.2%).

Obstetrical deliveries are done by 34.5% of respondents, while 54.8% see newborns post-delivery. Pediatric patients are seen by 95.2%. Only 22.6% do hospital surgery.

Regarding spouses working in the office, 66.3% do not have spouses in the office; spouses are paid and work full-time for 7.2%; spouses are paid and work part-time for 14.5% of respondents; 2.4% have spouses working full-time without salary; and 9.6% have spouses working in the office part-time without pay.

Individual gross practice income for 1983 was as follows: $80,000 or less for 29.5%; $80,001 to $110,000 for 11.5%; $110,001 to $140,000 for 24.4%; $140,001 to $170,000 for 12.8%; and more than $170,000 for 21.8%.

CME News. The Georgia AFP is offering 2 new home study CME programs: "Electrocardiography — Basic Concepts and Applications" is approved for 25 hours "P" credit and costs $185; "Comprehensive Review of Family Practice" is approved for 135 hours "P" credit and costs $575. The review course should be especially valuable for those due for recertification in '85 and '86. For more information call the chapter office at 235-3115.

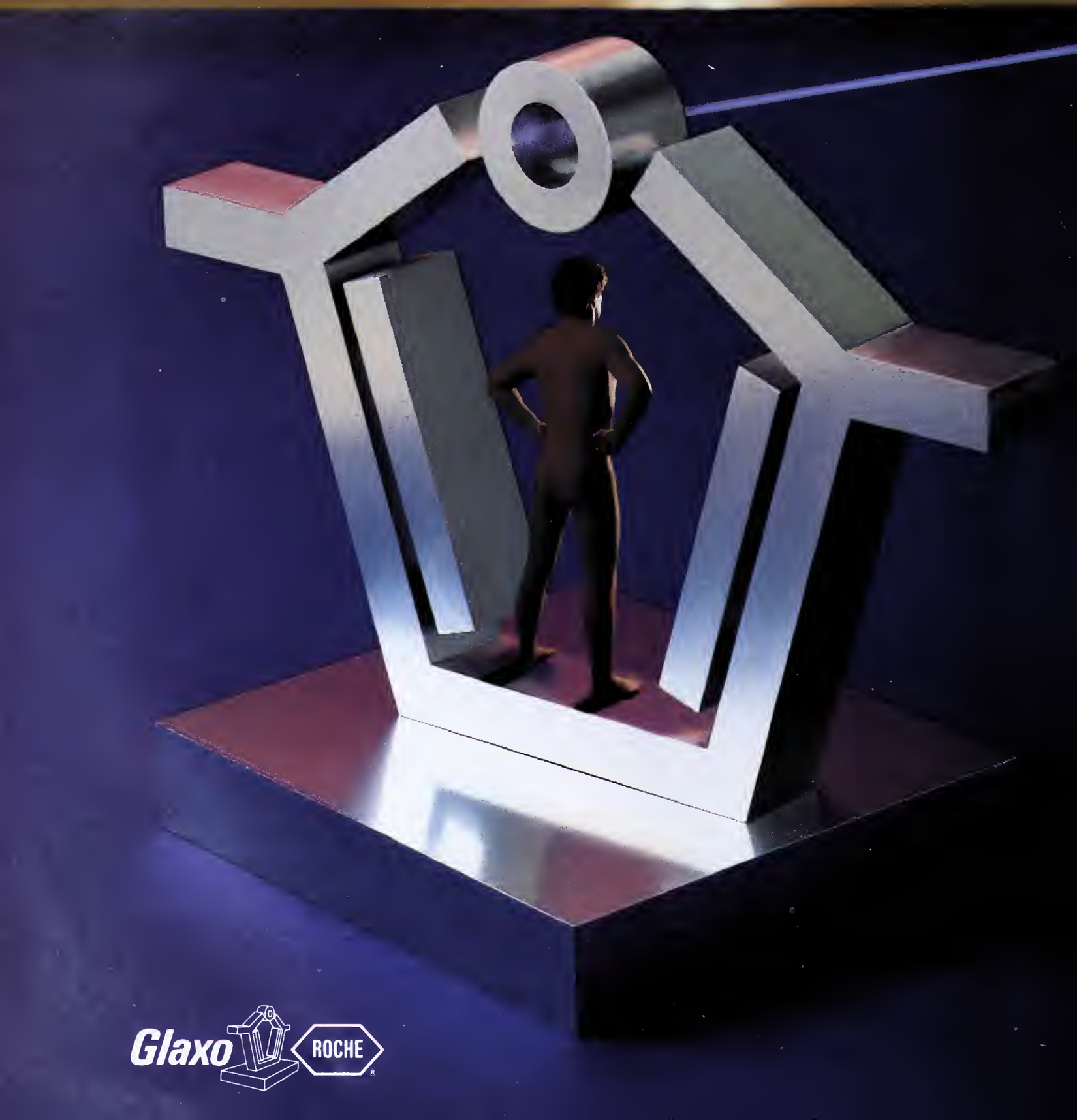
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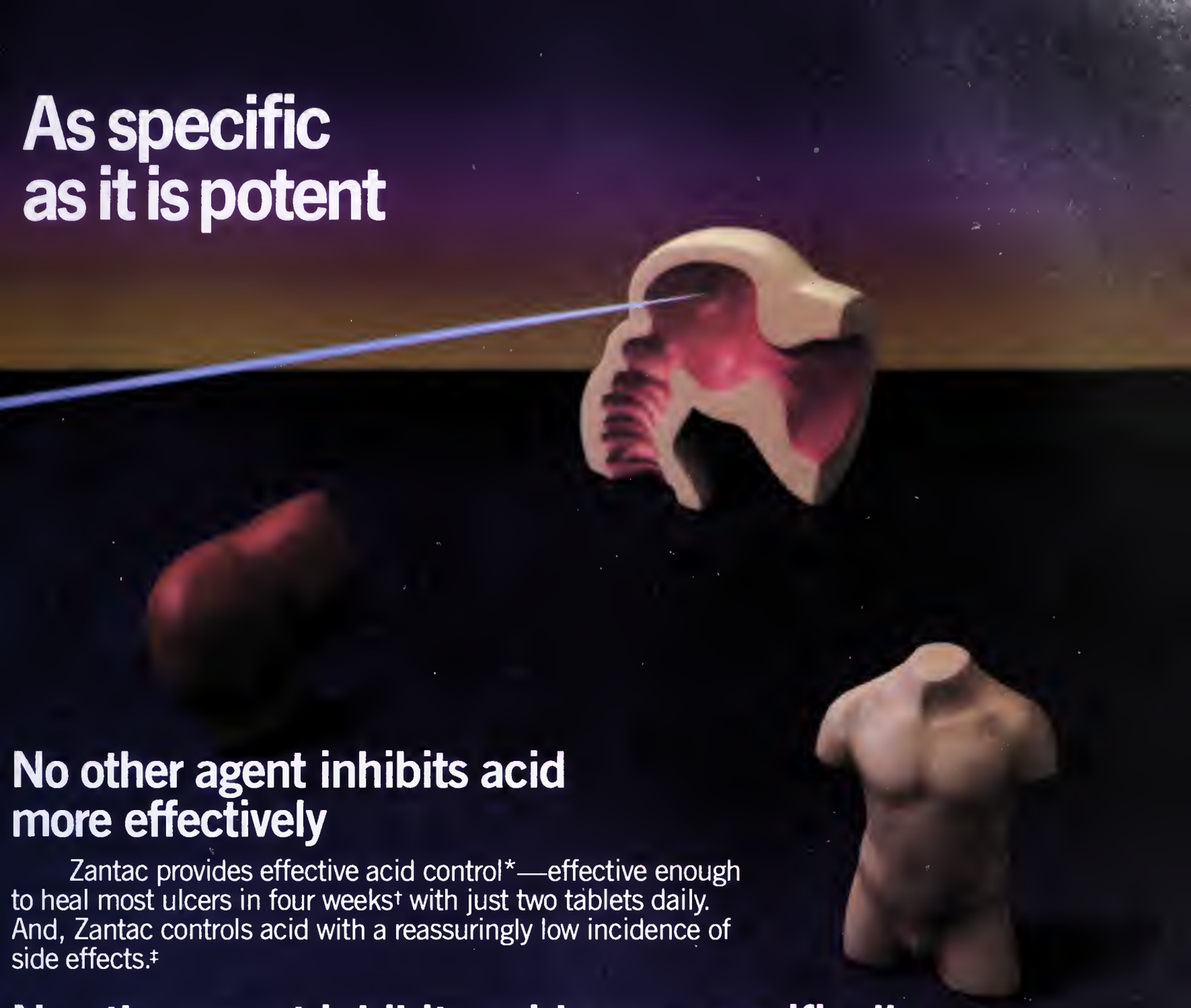
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- ☐ No effect on count, motility or morphology of sperm
- ☐ No effect on testosterone, estrogen or corticosteroid levels

In addition, Zantac does not significantly interfere with the hepatic metabolism of commonly used drugs. Unlike cimetidine, Zantac may be administered concomitantly with theophylline, warfarin, propranolol or phenytoin, without significant alteration of their serum levels.

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The convenient b.i.d. dosage not only encourages compliance, but through 24-hour acid control, also provides a reduction in both daytime and nocturnal pain. And, Zantac may be taken with food.

*It is not known exactly how much inhibition of gastric acid secretion is required to heal ulcers.
†37% of patients can be expected to show complete healing at the end of two weeks; if healing is documented, treatment can be discontinued.
‡See ADVERSE REACTIONS section of Brief Summary for complete description of reported events.

Please see following page for Brief Summary.

In active duodenal ulcer

Zantac®

[ranitidine HCl/Glaxo] 150mg tablets

The selective inhibitor



BRIEF SUMMARY OF PRESCRIBING INFORMATION

INDICATIONS AND USAGE: ZANTAC® (ranitidine hydrochloride) is indicated in:

1. Short-term treatment of active duodenal ulcer. Most patients heal within 4 weeks. Studies available to date have not assessed the safety of ranitidine in uncomplicated duodenal ulcer for periods of more than 8 weeks.
2. The treatment of pathological hypersecretory conditions (eg, Zollinger-Ellison Syndrome and systemic mastocytosis).

In active duodenal ulcer and hypersecretory states, antacids should be given as needed for relief of pain.

CONTRAINDICATIONS: ZANTAC® is contraindicated for patients known to have hypersensitivity to the drug.

PRECAUTIONS: General: 1. Symptomatic response to ZANTAC® therapy does not preclude the presence of gastric malignancy. 2. Since ZANTAC is excreted primarily by the kidney, dosage should be adjusted in patients with impaired renal function (see DOSAGE AND ADMINISTRATION). Caution should be observed in patients with hepatic dysfunction; ZANTAC is metabolized in the liver and, at present, the effects of hepatic disease on the metabolism of ZANTAC is unknown.

Laboratory Tests: False positive tests for urine protein with Multistix® may occur during ZANTAC therapy and therefore testing with sulphosalicylic acid is recommended.

Drug Interactions: Although ZANTAC has been reported to bind weakly to cytochrome P450 *in vitro,* recommended doses of the drug do not inhibit the action of the cytochrome P450-linked oxygenase enzymes in the liver. However, there have been isolated reports of drug interactions which suggest that ZANTAC may affect the bioavailability of certain drugs by some mechanism as yet unidentified (eg, a pH dependent effect on absorption or a change in volume of distribution).

Carcinogenesis, Mutagenesis, Impairment of Fertility: There was no indication of tumorigenic or carcinogenic effects in lifespan studies in mice and rats at doses up to 2000 mg/kg/day.

Ranitidine was not mutagenic in standard bacterial tests *(Salmonella, E. Coli)* for mutagenicity at concentrations up to the maximum recommended for these assays.

In a dominant lethal assay a single oral dose of 1000 mg/kg to male rats was without effect on the outcome of 2 matings per week for the next 9 weeks.

Usage in Pregnancy: ***Pregnancy Category B.*** Reproduction studies have been performed in rats and rabbits at doses up to 160 times the human dose and have revealed no evidence of impaired fertility or harm to the fetus due to ZANTAC® (ranitidine hydrochloride). There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers: ZANTAC is secreted in human milk. Caution should be exercised when ZANTAC is administered to a nursing mother.

Pediatric Use: Safety and effectiveness in children have not been established.

Use in Elderly Patients: Ulcer healing rates in elderly patients (65-82 years) were no different from those in younger age groups. The incidence rates for adverse events and laboratory abnormalities were also not different from those seen in other age groups.

ADVERSE REACTIONS: The following have been reported as events in clinical trials or in the routine management of patients treated with ZANTAC.® The relationship to ZANTAC therapy has been unclear in many cases. Headache, sometimes severe, seems to be related to ZANTAC administration.

Central Nervous System: Rarely, malaise, dizziness, somnolence, insomnia and vertigo. Rare cases of reversible mental confusion, agitation, depression and hallucinations have been reported, predominantly in severely ill elderly patients.

Cardiovascular: Rare reports of tachycardia, bradycardia, premature ventricular beats.

Gastrointestinal: Constipation, diarrhea, nausea/vomiting, abdominal discomfort/pain.

Hepatic: In normal volunteers, SGPT values were increased to at least twice the pre-treatment levels in 6 of 12 subjects receiving 100 mg q.i.d. IV for 7 days, and in 4 of 24 subjects receiving 50 q.i.d. IV for 5 days. With oral administration there have been occasional reports of reversible hepatitis, hepatocellular or hepatocanalicular or mixed, with or without jaundice.

Musculoskeletal: Rare reports of arthralgias.

Hematologic: Rare reports of reversible leukopenia, granulocytopenia, thrombocytopenia and pancytopenia.

Endocrine: Controlled studies in animals and man have shown no stimulation of any pituitary hormone by ZANTAC, no anti-androgenic activity, and cimetidine-induced gynecomastia and impotence in hypersecretory patients have resolved when ZANTAC® (ranitidine hydrochloride) was substituted. However, occasional cases of gynecomastia, impotence and loss of libido have been reported in male patients receiving ZANTAC, but the incidence did not differ from that in the general population.

Integumental: Rash and rarely alopecia.

Other: Rare cases of hypersensitivity reactions (eg, bronchospasm, fever, rash, eosinophilia), small increases in serum creatinine.

OVERDOSAGE: There is no experience to date with deliberate overdosage. The usual measures to remove unabsorbed material from the gastrointestinal tract, clinical monitoring and supportive therapy should be employed.

Studies in dogs receiving doses of ZANTAC® in excess of 225 mg/kg/day have shown muscular tremors, vomiting, and rapid respiration. Single oral doses of 1000 mg/kg in mice and rats were not lethal. Intravenous LD_{50} values in rat and mouse were 83 mg/kg and 77 mg/kg, respectively.

DOSAGE AND ADMINISTRATION: Dosage Adjustment for Patients with Impaired Renal Function: On the basis of experience with a group of subjects with severely impaired renal function treated with ZANTAC,® the recommended dose in patients with a creatinine clearance less than 50 ml/min is 150 mg every 24 hours. Should the patient's condition require, the frequency of dosing may be increased to every 12 hours or even further with caution. Hemodialysis reduces the level of circulating ranitidine. Ideally, the dosage schedule should be adjusted so that the timing of a scheduled dose coincides with the end of hemodialysis.

HOW SUPPLIED: ZANTAC® Tablets (ranitidine hydrochloride equivalent to 150 mg ranitidine) are white tablets embossed with "ZANTAC 150" on one side and "Glaxo" on the other. They are available in bottles of 30 tablets (NOC 0173-0344-40), 60 tablets (NOC 0173-0344-42) and unit dose packs of 100 tablets (NOC 0173-0344-47).

Store at controlled room temperature in a dry place. Protect from light. Replace cap securely after each opening.

Revised: July 1984

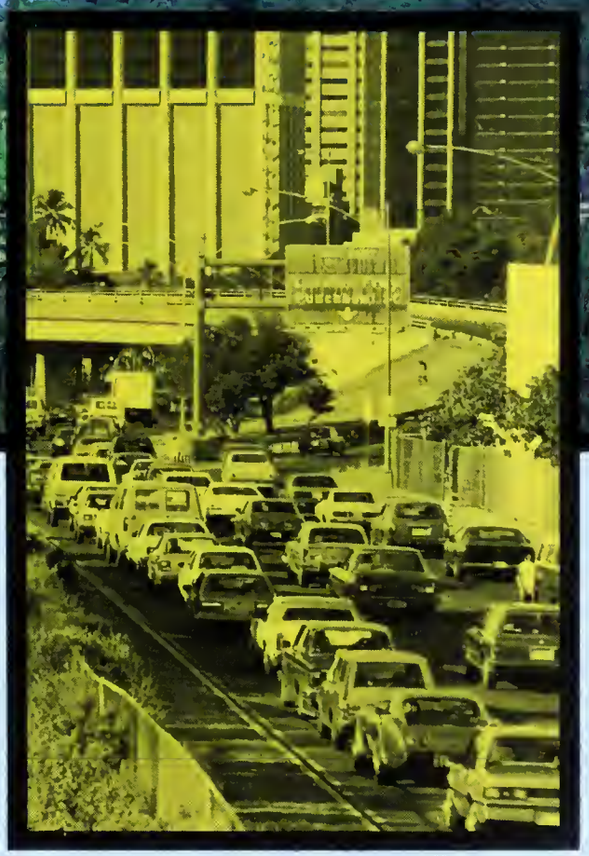
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CONTENTS

Special Issue

Neurology and Neurosurgery in Hawaii
Michael M. Okihiro, M.D., Guest Editor

Letter to the Editor 439

Editorial: 439
Neurology and Neurological Surgery
Michael M. Okihiro, M.D.

Temporomandibular Joint Dysfunction Masquerading as Chronic Cervical Strain 441
William W.T. Won, M.D.

The IME 443
Calvin C.M. Kam, M.D.

Neurology and Neurosurgery in Hawaii over 45 Years—A Personal Reminiscence 444
Ralph B. Cloward, M.D.

Aging and the Nervous System 456
Stanley Batkin, M.D.

Orbital Bruits in Atherosclerotic Cerebrovascular Disease—An Oriental Phenomenon 458
Michael M. Okihiro, M.D.

Reflections of a Former Queen's Hospital Resident 459
Doris R. Jasinski, M.D.

Continuing Medical Education 460

Dementia: Early Diagnosis with an Endogenous Event-Related Potential (Auditory P300) 463
J.W. Pearce, M.D.

Cerebrotendinous Xanthomatosis in Hawaii—A Therapeutic Failure 472
Robert C. Hinman, M.D.

Liquid Crystal Contact Thermography in the Clinical Evaluation of Traumatic Low Back Pain 480
Kenneth K. Nakano, M.D.

News and Notes 484
Henry N. Yokoyama, M.D.

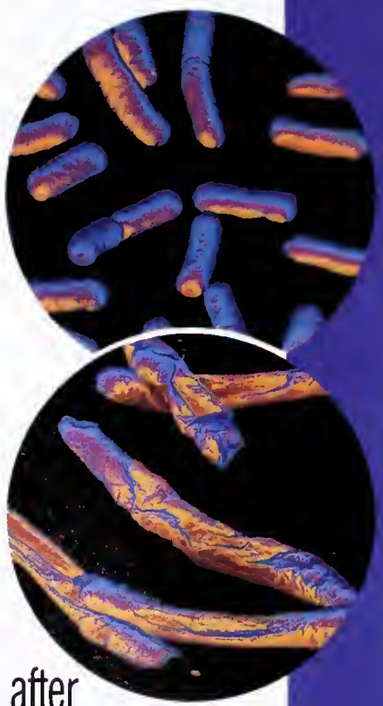
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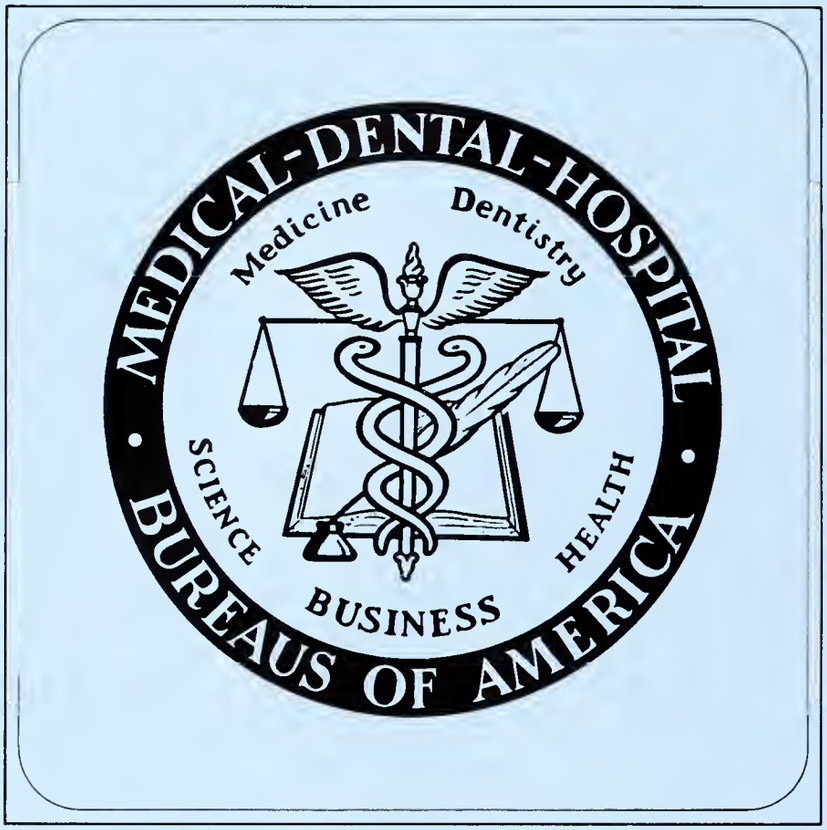
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FMGs

Editor:

I always have enjoyed reading your News & Notes column. In your column I find humor, wit, and interesting articles about fellow physicians in the hospitals, in the golf courses, and in out-of-this-world places.

In the July 1984 issue of the HAWAII MEDICAL JOURNAL, I read in your column the comments of Dr. Azman concerning the foreign medical graduates (FMGs) with amusement, especially since I know that Dr. Azman is a foreign medical graduate himself in the true sense of the word. More so, because my friends who are practicing in Canada tell me that Canadian graduates from places like Montreal and Toronto look down upon Canadian graduates from "under-developed" places like Alberta. Well, I guess Dr. Azman has forgotten his humble beginning now that he is on top of a pedestal, being the chairman of the Board of Medical Examiners for the State of Hawaii.

Dr. Azman is entitled to his opinion, just as Clinton Tanimura (the state auditor) and I (an FMG) are entitled to our opinions for different reasons: that is, Tanimura, in his official capacity as the state auditor, giving his honest opinion, and I, as an FMG, serving my group's interests. Dr. Azman, a Canadian graduate, considered to be on the same footing as American (U.S.) graduates, serves the interest of a particular group.

Tanimura is an impartial official assigned to do a job and, may I add, doing an honest job deserving of his position. There is no question in my mind that, if these 3 opinions are presented to the public, Tanimura's will be considered the unbiased one. In a front page article in the respected Pacific Business News of August 20, 1984, on the subject of the "Sunset Law," Diana Chang, an analyst, was quoted as saying that "the regulated professionals often favor continued regulation to protect themselves from outside competition, and not to protect the public . . . Some see it as an advantage so they can set up rules to say who can work in the profession, and who can't." Although these comments might not be entirely true, they have their own merits and basis in facts.

In the practice of medicine here in Hawaii and on the Mainland, I dare say that most patients see no distinct difference between U.S. graduates and FMGs. The fact that FMGs can compete with U.S. graduates in the mainstream of American society speaks for itself.

Some foreign medical schools have graduates here in the States from 50 years ago and longer. These foreign medical schools and their graduates have "withstood the test of time." Unfortunately, I cannot say the same about some other medical schools and their graduates. I am in total agreement with those who would like to be more selective as to who should be allowed to come to the U.S. to practice. A lot of the schools that are inadequate are known to the U.S. authorities and are pretty obvious; some don't even have hospitals; their graduates should be prevented from coming to the U.S.

The FMGs are proud of their contributions in the field of medicine in the USA. Some of these foreign doctors have become full-fledged professors and heads of departments in medical schools and hospitals; some have become authorities in their fields and some are Nobel Prize winners.

My main argument against the 3-year requirement prior to allowing an FMG to apply for state licensure is that it is discriminatory. Once we pass the difficult ECFMG examination, we are treated as co-equal with U.S. graduates and are allowed to train beside American graduates in accredited hospitals. Both FMGs and U.S. graduates compete for the same positions, the one who has performed *the best* getting the job in a pyramidal system of residency training programs.

I can cite instance after instance where an FMG was chosen over a U.S. graduate because of better performance and, of course, vice versa.

So, why the discrimination of allowing a U.S. graduate to take the licensure early and not the FMG? This only puts the FMG at a great disadvantage, because most of the training programs are 3 to 4 years. So, since the U.S. graduates are allowed to take the licensure examination early, most of them can start looking for a job or a place to practice before finishing their training; whereas, the poor foreign medical graduates, about to finish their training, still have to worry about taking the licensure examination instead of looking for a job or place to practice. Please note also that most of the states on the Mainland require only 1 year of training prior to licensure.

Whether you like it or not, we, the foreign medical graduates, are here to stay. Some of us came here as immigrants and some as American citizens, just as the Pilgrims of the American past came looking for a better life and contributed their share to the great American society. In these trying times of medicine I would like to suggest that both the U.S. and foreign medical graduates join hand-in-hand to tackle our common adversaries instead of each other.

Antonio K. Tan, M.D., Honolulu
Secretary, Philippine Medical Association of Hawaii

Editorial

Neurology and Neurological Surgery

I recently had the privilege of attending the 100th meeting of the Advisory Council of the National Institute of Neurological and Communicative Disorders and Stroke (NINCDS) in Bethesda, Md. This branch of the National Institutes of Health (NIH) came into existence in 1950 and has as its purpose the charge to improve the health of the nation through research in the neurosciences.

In the 34 years since the birth of this organization, there have been many important advances in our field. To name a few, poliomyelitis has been conquered; numerous genetic disorders have been delineated and a few such as phenylketonuria now can be successfully treated; L-dopa has eased the plight of hundreds of thousands of patients with Parkinson's disease. The concept of "slow viruses" has been secured. Improvements in the treatment of myasthenia gravis have changed the outlook of this disorder so that the prognosis is rarely "grave" anymore.

The history of neurology and neurosurgery in Hawaii is also rather brief. Dr. Ralph B. Cloward, who started his practice in 1938, was the first neurosurgeon in these Islands. Dr. Cloward has attained international fame for his thoughtful inventiveness and new procedures for the relief of spinal disorders. He is still busy, active, writing, and teaching and treating the difficult spinal cases, and he reviews 45 years of neurology and neurosurgery in this special issue of the JOURNAL.

We would be remiss not to mention Dr. John D. Lowrey who joined the Straub Clinic in 1949. Dr. Lowrey was the epitome of the dedicated, hard-working, always reliable, honest-to-goodness neurosurgeon. He was a leader at the Straub Clinic, from whence he retired in 1978. Despite his heavy schedule, he somehow found time to serve as president of the Honolulu County Medical Society in 1968 and the Hawaii Medical Association in 1970.

Today, there are 15 neurologists and 14 neurosurgeons in our state. This issue of the HAWAII MEDICAL JOURNAL is devoted to topics in the neurosciences and reflects the varied interests of our local neurological and neurosurgical contributors. We hope these topics will be of interest to all of you.

Michael Okihiro, M.D.
Editor, Neurology/Neurosurgery Issue

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Temporomandibular Joint Dysfunction Masquerading as Chronic Cervical Strain

William W.T. Won, M.D., FACS, Honolulu

• *Neck pain is one of the commonest complaints of patients who have been involved in seemingly minor trauma to the head and neck. Generally, the most that the neurological specialist could offer these uncomfortable patients has been physical therapy, medication, perhaps an occasional cervical fusion, but mostly lots of reassurance and sympathy. The symptoms would linger on for months and years despite the best in conservative treatment. Some patients would never "recover completely" from their accidents. Now, a reasonable alternative is offered in the form of temporomandibular joint (TMJ) dysfunction or myofascial pain dysfunction (MPD) treatment. Any patient with these diagnoses should have the benefit of TMJ or MPD evaluation before being told that he must "live forever" with these symptoms.*

Recent literature on the temporomandibular joint (TMJ) dysfunction syndrome or the myofascial pain dysfunction (MPD) syndrome has reported that there are diverse neurological symptoms associated with these syndromes.[1,2,3,4] More than 50 years ago, several French physicians described such a syndrome, but they attributed it to an elusive cervical or vertebral nerve injury. However, the symptom complex occurred frequently enough so that attention was focused upon it even though it was considered generally to be untreatable.

"Complaints usually do not appear immediately after trauma. They come on a week, a month, or even a few years afterward. The accident was sometimes so distant that the patient did not recall it and was reminded of it only by questioning. Headache is usually occipital, but may be frontal, and even intraocular. Dizziness is mild and in the nature of transitory unsteadiness without attacks of vertigo. Ear noises and tinnitus are frequent. Transitory obscuration of vision sometimes appears. There are usually no objective signs. Facial pain with vasomotor changes is sometimes seen. In one case, there was twitching of an upper lid. Symptoms referable to the neck are important in diagnosis. The neck is often stiff; pain with motion and limitation of motion are not infrequent. The syndrome often comes on insidiously and reaches a maximum intensity in a few weeks. It may be very recalcitrant to treatment. One of the author's patients had continued complaints for 10 years. It is most often confused with the post-concussion syndrome. Differential diagnosis is difficult."[5]

Many patients who have been diagnosed as having chronic cervical strain, and whose symptoms persist for months to years without neurological deterioration, may indeed have a TMJ dysfunction syndrome. The present report is based on a review of the 31 patients seen in 1979 and 1980 and followed from 3 to 20 months with the diagnosis of chronic cervical strain and TMJ dysfunction syndrome. There were 19 men and 12 women. Table 1 lists their symptoms and complaints when first seen.

All of these patients had been previously thoroughly examined neurologically and orthopedically by other physicians to rule out cervical disc disease with nerve root pressure, subdural hematoma, or other organic brain disease. None of these patients had significant neurological deficits to explain their persistent but intermittent symptoms. All patients had endured considerable pain and discomfort and had become somewhat depressed psychologically. In some instances, they reported such excruciating headaches at night and in the early morning hours that they required emergency pain injections.

These patients all had one finding that had not been previously brought to their attention. They all displayed tenderness of the TMJ, either unilaterally or bilaterally. Most of the patients had not been aware of the temporomandibular joint tenderness, and were initially doubtful of the clinical impression that their symptoms could be due to dysfunction of the temporomandibular joint. However, they were relieved to find at last some abnormality that would explain their chronic neck pain and often debilitating symptoms. Some of the patients had grossly visible malocclusion, while others had no obvious malocclusion problem.

Table 2 shows the degree of pain relief as expressed by the patients themselves after receiving appropriate dental therapy including occlusal splinting and equilibration of the teeth. Patients were advised on proper dental habits and were told to refrain from foods requiring excessive chewing and biting. It was emphasized that they should consciously refrain from clenching or gritting their teeth during the day or while otherwise engaging in exertional activities.

Discussion

Temporomandibular joint dysfunction, also known as the myofascial pain dysfunction syndrome, is a disease of multiple etiology.[3,6,7] It is a complex condition that assumes different forms and character as it progresses from a primarily muscular disease to one that involves the cartilagenous disc and finally the osseous structures of the joint itself. The

TABLE 1.
Frequency of symptoms of TMJ dysfunction

Symptom	Frequency
Headache	0.97
Neck pain	0.94
TMJ pain	0.66
Dizziness	0.50
Pain in arm	0.50
Grinding teeth	0.34
Clicking of TMJ	0.31
Tingling of fingers	0.25
Back pain	0.25
Tinnitus	0.22
Eye pain	0.16
Nausea and vomiting	0.13
Blurry vision	0.06
Chest pain	0.03

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terms, TMJ dysfunction syndrome and MPD syndrome, are felt to refer to different aspects of the same disease complex. Many anatomical studies have been reported in the dental literature to explain the pathophysiology of the syndrome.[7,8]

The clinical features may be considered to occur as a result of a musculoskeletal "chain reaction" starting from the muscles supplying the joint itself. All the muscles around the temporomandibular joint and the muscles of mastication work synergistically in pairs. When these muscles become chronically stretched or hypertonic, their synergistic or opposing muscles become similarly affected. The reacting muscle groups include the lateral and medial pterygoid muscles, the posterior cervical muscles, and the muscles of the shoulder and proximal upper extremity. The trapezius muscle becomes involved in its entirety down to its origins at the lower thoracic level as it fixes the neck in response to chewing movements.[9] Thus, the pain may start in the anterior temporal muscles bilaterally or unilaterally, and radiate down from the head and neck into the shoulders and mid-thoracic spine area.

Trauma to the joint may be the common denominator of TMJ dysfunction according to some authors.[8,10] Sudden jarring of the head and neck causes the patient instantaneously to brace himself to prevent further excursion of the head. In doing so, the patient may clench his jaws with great force. In such patients with pre-existing malocclusion problems, this tends to further stretch the lateral pterygoid muscles and actually accelerates the progression of changes within the temporomandibular joint. Immediately following an accident, the development of neck pain and headaches is of primary concern to the patient and the treating physician.

After these high priority injuries are treated, the acute symptoms resolve, but there is persistence of headaches and other vague complaints related to the head and neck. The absence of significant neurological abnormalities on clinical, radiological, and other laboratory tests is often frustrating and difficult to explain. In most instances, little attention is paid to the temporomandibular joints. Experienced radiologists agree that there are no generally accepted radiographic findings specific for the TMJ dysfunction syndrome.[12] It is evident that the absence of radiological changes on conventional views of the TMJ cannot exclude the diagnosis of TMJ dysfunction. Some dental specialists who have become interested in this particular problem have developed their own special techniques and views to assist themselves in diagnosing and treating the problems of TMJ dysfunction.

There is no single school of thought today that totally elucidates the exact etiology of the TMJ dysfunction syndrome.[10] Dawson feels that the underlying cause of this syndrome is a malocclusion problem.[8] In the acute stage, there may be a variety of symptoms related to the degree of malocclusion present and the associated clenching or bruxing of the teeth. There is no doubt that trauma to the head or neck can aggravate a pre-existing malocclusion problem by further stretching already chronically stretched and hypertonic lateral pterygoid muscles and other muscles of mastication.

When the malocclusion that is present is corrected and treated appropriately by dental specialists, the symptoms quickly regress. Occasionally, the relief of pain is immediate. The necessary maneuvers or prosthetic appliances required to hold and maintain the ideal position of the joint may tax the ability and imagination of the dentist.[11] A well applied splint, however, may affect a "cure" of the

TABLE 2. Patient's response to therapy including change in dental habits, occlusal splinting, and equilibration by dentists

Patient	Relief of headaches	Relief of neck pain	Relief of TMJ pain	Relief of dizziness	Relief of tinnitus	Relief of nausea	Relief of grinding teeth
1	+	-					+
2	+	+	+	+			
3*							+
4*	+	+	+				+
5	+	+	+				+
6*	+	-		+	-		
7	-	+	+	+			
8	+	+		+			
9	+	+					
10	+			+			+
11	+	+	+				
12	+	-	+				
13	+	+	+	+			
14	+	-		+			+
15*	-	-					
16*	-	-					
17	+	-	+				+
18				+			
19	+	+	+				
20*	-	-					
21	+		+				
22	+	-		+	-		+
23	+	-		+			
24		+	+	+			
25	-	+	+	+			+
26		+	+	+	+		
27	+	-	+	+			+
28							+
29*	+	+				+	
30	+	+	+		+	+	
31	+		+	+			

* = did not complete treatment
\- = 0-50% relief
\+ = 100% relief

TABLE 3. Symptoms of temporomandibular joint dysfunction syndrome by functional organ system

Skeletal muscles:	Tenderness or pain in the masticatory muscles, posterior cervical muscles, trapezius muscles, suprahyoid and infrahyoid and sternomastoid muscles; tingling of arms and fingers.
Mouth and oral cavity:	Clenching of teech, chewing constantly on one side only; restricted range of motion of the TMJ; pain and tiredness of the jaw muscles with excessive chewing.
Head:	Headache, mainly bitemporal, but may be frontal or occipital.
Ears:	Tinnitus; clicking on jaw movements; dizziness.
Eyes:	Blurry vision; retro-orbital pain; difficulties in accommodation.
Autonomic system:	Nausea, diarrhea, syncope, perspiration.
Psychiatric system:	Tense, anxious, depressed, passively hostile.

patient's condition indefinitely. Treatment to the neck and shoulder with physical therapy and medication for pain or muscle relaxation still may be necessary. The need for these ancillary measures will be greatly reduced, however.

One cannot over-emphasize the necessity of a cooperative team, consisting of a physician, a dentist, and a physical therapist, all of whom have an understanding of the TMJ dysfunction syndrome or MPD syndrome, and can agree on the treatment of that particular patient. If there is any one disease complex that, by its very nature, requires close cooperation between physician and dentist to treat successfully, then this is that condition.

Table 3 details the varied symptoms frequently seen in the TMJ dysfunction syndrome patient. Many of the symptoms are highly subjective, as they are also in the chronic cervical strain patient. It is suggested that those patients, previously diagnosed as having chronic cervical strain, with negative neurological and orthopedic findings, who do not improve with the usual conservative measures over the months and years following trauma, should be considered for evaluation of a TMJ dysfunction syndrome. Attention and treatment should be directed to the correction of the malocclusion present, and a gratifying result may well follow, as noted in the patients reported here.

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REFERENCES

1. Greene CS: The temporomandibular syndrome. *JAMA* 224:622, 1973.
2. Morgan DH: The great impostor — diseases of the temporomandibular joint. *JAMA* 235:2395, 1976.
3. Mikhail M, Rosen H: History and etiology of myofascial pain dysfunction syndrome. *J. Prosthet. Dent.* 44:438-444, 1980.
4. Reik L Jr., Hale M: The temporomandibular joint pain-dysfunction-syndrome: A frequent cause of headache. *Headache* 21:151-156, 1981.
5. Savitsky N: Review of an article by Henri Roger in Rev. Oto-neurolophthal. 24:32, 1952. *Arch. Neurol. & Psych.* 70:273, 1953.
6. Farrar WB, McCarty WL: An Outline of Temporomandibular Joint Dysfunction: Differential Diagnosis and Treatment. The Normandie Study Group, Montgomery, Alabama, 1979.
7. Pertes R: The use of functional appliances in the prevention of TMJ dysfunction syndrome. *Basal Facts* 3:165-183, 1978.
8. Dawson PE: Evaluation, Diagnosis and Treatment of Occlusal Problems. St. Louis, CV Mosby, Pp. 17-40, 1974.
9. Travell J: Temporomandibular joint pain referred from muscles of the head and neck. *J. Prosthet. Dent.* 10:745-763, 1960.
10. McNeill C, Danzig WM, Farrar WB, Gelb H, Lerman MD, Moffett BC, Pertes R, Solberg WK, Weinberg LA: Position paper of the American Academy of Craniomandibular Disorders. Craniomandibular (TMJ) disorders—the state of the art. *J. Prosthet. Dent.* 44(4):434-437, 1980.
11. Weinberg LA: Posterior bilateral condylar displacement: Its diagnosis and treatment. *J. Prosthet. Dent.* 36:426-440, 1976.
12. Carlsson G: Mandibular dysfunction and temporomandibular joint pathosis. *J. Prosthet. Dent.* 43:658-662, 1980.
13. Gelb H: Effective management and treatment of the craniomandibular syndrome in Gelb H (ed.): Clinical Management of Head, Neck and TMJ Pain and Dysfunction. Philadelphia, WB Saunders, Pp. 228-369, 1977.

The IME

Calvin C.M. Kam, M.D., Honolulu

• *Many abbreviations are used in medical records, most having been learned out of expediency following medical school. Nevertheless, many physicians have never heard of an IME. This is not a term found in a medical dictionary nor used in medical school, but for medical-legal evaluations. The IME, or Independent Medical Evaluation, is a service usually requested by insurance carriers or attorneys to help understand and clarify medical-legal cases. This would be equivalent to a second opinion or consultation, since a physician simply provides opinions but does not assume the care of the patient.*

To date, there are no set requirements or regulations to specify the manner and nature of the Independent Medical Evaluation to be done. The 1984 AMA Guides to the Evaluation of Permanent Impairment, in Appendix A, summarizes very well pertinent details for reports. Reports vary in content which, of course, would reflect the independence of these reports, but the following points should be considered.

The patient should have an opportunity to report the nature of the trauma or causative factors resulting in the injury or illness. All resultant symptoms should be detailed. Prior and subsequent injuries or illnesses; prior care rendered and benefits from such; diagnostic work-ups; social, educational, and vocational history; and a pertinent physical examination should be included. As in general medical practice, an impression or diagnosis then would be made, and medical opinions rendered.

Medical opinions necessary for these evaluations differ from the usual situations taught in medical school which included diagnosis, treatment, and anticipated improvement and recovery. The evaluation should answer the following questions.

1. Diagnosis.
2. Causation with differentiation of a new injury, recurrence, or an aggravation.
3. Appropriateness and benefits of prior care.
4. Prognosis with feasibility of returning to work at a specified time.
5. Necessity of vocational rehabilitation.
6. Further recommendations for care.
7. Apportionment when indicated.

A physician doing independent medical evaluations should have a working knowledge of the Guides to the Evaluation of Permanent Impairment of the American Medical Association. The second edition, published earlier this year, should be consulted, and the glossary on page 225 should be used to clarify general terms used in Independent Medical Evaluations. Terms have been well described, but recurrence was not listed; this would simply mean the same problem coming on again without any subsequent injury.

To do IMEs, past experience and knowledge of the pertinent problems would be necessary. For the physician with time to do these evaluations, there are many benefits. By routinely asking about the nature of a patient's injury or illness and elaborating on the symptoms and disabilities, diagnostic skills are developed. From seeing cases of other health care providers, knowledge about problems being treated, benefits of care, and why certain forms of treatments will fail, would help in one's own practice.

All social factors, which would include vocational history, psychological problems, motivation, and responsibility, should be considered, as such would affect any form of treatment program. By reviewing past records of care given before and after an injury or an illness, a better understanding of the patient's problems would develop. The greatest satisfaction, however, is the opportunity to evaluate a chronic situation that persists without end in sight and find a medical problem that has been missed to help improve the quality of health care rendered. These concerns are presented as a social responsibility. Let us hope the time will never come when a patient will see a doctor to become disabled. Efforts should be made to make patients able, instead!

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Neurology and Neurosurgery in Hawaii Over 45 Years—
A Personal Reminiscence

Ralph B. Cloward, M.D., Honolulu

• *With this issue of the* HAWAII MEDICAL JOURNAL *devoted to the fields of neurology and neurological surgery, a chronological review of the history of these specialties in Hawaii over the past 45 years may be of interest to the readers. I have had the privilege of living through and practicing these medical specialties for half a century.*

Prior to graduation from medical school in 1934, I had decided to make the diagnosis and treatment of diseases of the nervous system my life's work. In my 4 years of specialty training in Chicago, most of the time was devoted to the study of functional anatomy, physiology, and diagnosis of diseases of the nervous system. We studied and identified every square millimeter of the nervous system, every nerve, every tract, and every sign and symptom that resulted from impaired neurological function. Clinical diagnosis, localization, and pathology were based almost entirely on a working knowledge of the nervous system rather than on mechanical, electrical, or radiological procedures.

The diagnosis and treatment of medical neurological diseases occupied a limited period of our training. The electroencephalogram was just being developed. Medical treatments were limited almost entirely to phenobarbital for epilepsy, and to various combinations of arsenic, mercury, bismuth, and potassium iodide for syphilis of the nervous system. Other infections such as leptomeningitis, usually secondary to upper respiratory infections and lung infections were very common, and were 98% fatal at that time. We had no antibiotics.

Fifty years ago, neurological surgery was limited almost entirely to removal of brain tumors and treating head injuries with and without skull fractures. Diagnosis was confined to skull X-rays, pneumoencephalograms, and ventriculograms. Angiography had not yet been developed, so vascular lesions of the brain were unrecognized before death. Spine surgery consisted entirely of laminectomy for spinal cord injuries and tumors that were localized by myelography using lipiodol. Surgery for ruptured lumbar and cervical discs was virtually unknown.

The first paper I wrote and eventually published was read at the annual meeting of The Harvey Cushing Society in Philadelphia in 1937. The 42 members of the society present at that meeting constituted the majority of the neurosurgeons then practicing in the United States. Today, the society has more than 3,000 members, testimony to the growth of neurosurgery over the past 50 years.

I had moved to Honolulu in 1926 with my father, Dr. Ralph E. Cloward, who was serving in the U.S. Army. He resigned his commission that same year and joined "The Clinic," later the Straub Clinic, where he practiced otolaryngology and ophthalmology for 14 years. After my graduation from high school, I attended the University of Hawaii for two years, then spent the next 10 years on the Mainland, matriculating at the University of Utah and then at the University of Chicago, Rush Medical College.

In 1938, I returned to Honolulu and joined my father at the clinic in the practice of neurology and neurosurgery. After six months, I resigned to open my own office in March 1939. From that time, and for the next 10 years, I was the first and only specialist in these fields — not only in Hawaii, but in the entire Pacific Basin! This first decade of neurology and neurosurgery in Hawaii, therefore, was a singular and personal one.

After completing training at the University of Chicago, I was hesitant to leave a large cosmopolitan urban environment and return to a remote island community to practice a specialty that was largely unknown to either lay persons or medical professionals.

My mentor and major professor, Dr. Percival Bailey, sought to reassure me by saying, "Cloward, I have taught you all that I know. From now on, you must learn through your own experience, in 'the school of hard knocks!' You will have no one to consult with and, therefore, you will have to solve your own diagnostic and surgical problems alone. Above all, you must strive to be a teacher, to acquaint others with what you know and can do!"

It was difficult for a young doctor, fresh from his training, to "teach" experienced doctors who were old enough to be his father about these new specialties without offending them. My first case was a good example.

Dr. Nils P. Larsen was medical director and pathologist of the Queen's Hospital, and was considered the top medical man in the Islands. He conducted a regular Thursday morning clinic for the staff doctors — presenting diagnosis, treatment, and pathology of interesting cases. At the first clinic I attended, Dr. Larsen showed a case he had diagnosed to be, "a pituitary tumor that failed to respond to X-ray therapy."

The patient was a 32-year-old woman who complained of severe headaches, vomiting, and blurred vision. Her skull X-rays showed a large sella turcica. The patient was bald on both sides of her head where she had received large doses of X-rays over the previous five months. Dr. Larsen introduced me and asked that I comment on the case.

I asked the patient when she had last menstruated. She replied, "One week ago." I did a quick check on her visual fields, and found both temporal fields to be intact.

After the patient had left the room, I told the staff that I did not think the patient had a pituitary tumor. There was an audible gasp from those present because no one had ever questioned a diagnosis made by Dr. Larsen. He asked me for my diagnosis. I replied that I thought the patient had a cerebellar

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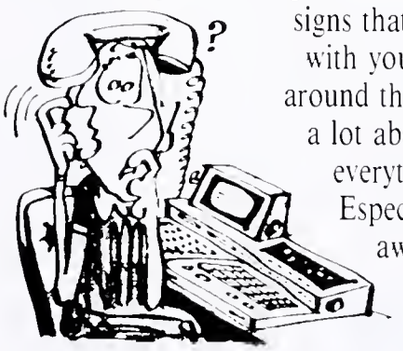
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tumor with an obstructive hydrocephalus. I pointed out that a large pituitary tumor in a young woman always caused amenorrhea.

Dr. Larsen asked, "But then why the large sella turcica?"

I responded that this was due to pressure of the hydrocephalus by a dilated third ventricle.

Not satisfied with my diagnosis, Dr. Larsen transferred the case to me for further testing and treatment.

At the following week's conference, I presented the ventriculogram showing a large ventricular dilation, and the pathological specimen, a cystic hemangioblastoma that I had removed from the patient's cerebellum.

As the hospital's pathologist, Dr. Larsen did all the autopsies. He admitted he had very little knowledge of neuropathology, and that his autopsies normally did not include examination of the brain. He gave me permission to remove the brain on all autopsies. These brains were preserved in formalin, and I began a neuropathological conference for the house staff at Queen's that included a monthly brain cutting session.

At the first brain cutting session, 3 specimens were found to contain tumors. In none of these cases had a correct diagnosis been made or suspected before death. These monthly neuropathological conferences were continued for 3 years, and made local doctors aware of the clinical diagnosis of intracranial pathology.

In 1948, I published a statistical and pathological review of 85 brain tumors encountered and operated on in Honolulu. One of these brain tumors was published as a case report because of its size and duration: A recurring frontal lobe meningioma of 30 years' duration, weighing 267 grams at excision![3,7]

The American Board of Neurological Surgery was organized and the first examinations given in October 1940. I had made application to become a founding member, but because the application forms had been sent literally "by slow boat," I had to content myself with passing the second round of examinations held in Philadelphia in June 1941. Crossing the Pacific from Honolulu to San Francisco via the Pan American China Clipper took 19 hours' flying time then.

Pearl Harbor and World War II

Neurosurgery in Hawaii during World War II began on December 7, 1941, with the Japanese bombing of Pearl Harbor. Within 1 hour after the bombing started, I was operating at the old Tripler Hospital on head injury cases. The Army had designated a small delivery room in the obstetrics department for my operating room. With my dedicated scrub nurse, Mrs. Edith Yoshioka, we embarked on a 3½-day round-the-clock surgical marathon, operating on brain injuries. We tried to help as many as we thought would survive their injuries. All wounds were compound, depressed skull fractures, resulting from sharp metallic bomb fragments striking the head at high speed.[5,6]

The surgical techniques employed for the treatment of open war wounds to the head were the same as used and advocated by Dr. Harvey Cushing in World War I. The treatment was directed toward complete and definitive debridement of injured tissues. All fractured bone and metal fragments were removed, and all macerated brain tissue debrided by suction.

My suction apparatus was a portable machine used to aspirate the trachea of newborn babies, so it did not have much suction power. I soon discovered that damaged, macerated brain tissue would be removed by this suction, whereas normal brain tissue would not. Therefore, this became our quantitative indicator for debridement. No attempt was made to close the dura mater in larger wounds, but water-tight closure of the scalp was obtained in all cases.

Many small intracerebral metallic fragments went unrecognized until a week or so later, when the patient would develop severe headaches or convulsions. A skull X-ray then would disclose the metal fragments and the small depressed skull fracture as the point of entry. The Army made available to me a very powerful electromagnet. Through a trephine hole in the skull and the opened dura, many of these fragments of steel could be drawn through the brain and removed by placing the magnet on the brain surface.

The only antibiotic-type drugs available at that time were sulfas. Sulfanilamide came in large crystals that had to be ground up into a powder. I made generous use of this powder, sprinkling it throughout the entire cranial wound. To my knowledge, this was the first time that any anti-bacterial agent had been placed directly upon brain tissue.

Cranioplasty

There was no way of closing the cranial defect resulting from massive depressed skull fractures. The Army informed us that a new metal was being developed that could be used to repair cranial defects. About 6 months later, the Army supplied me with thin sheets of tantalum, a non-reactive malleable metal that could be pounded and shaped to fit the contour of the skull.

I used tantalum to repair all cranial defects for the duration of the war and then for the next 30 years! During the construction of the Navy's oil storage facility at Red Hill, I averaged 3 or 4 depressed skull fractures a week from this project. I always removed the fractured skull fragments, debrided the bone margins, and inserted a tantalum plate at the initial operation.

Leprosy

In 1938 and throughout World War II, leprosy (Hansen's disease) was still a very active public health problem in Hawaii. About 40 new cases were reported each year. These cases were initially treated at the Kalihi Receiving Station. The active cases at Kalaupapa during World War II declined from 413 to 331. The only treatment up to 1945 was chaulmoogra oil and "kindness," as Dr. N.E. Wayson used to say.

Interested in the effects of leprosy on the nervous system, I participated in consultations at the Kalihi Receiving Station during 1938 and 1939. In 1940, when Dr. Norman R. Sloan became medical director at the Kalaupapa settlement, we established a neurosurgical clinic there. During the next 10 years, I visited Kalaupapa as often as once a month to operate, doing primarily peripheral nerve surgery.

The leprous granuloma would form in the perineural tissues of the peripheral nerves, causing severe painful neuritis and paralysis. Most frequently involved were the greater occipital nerve at the base of the skull, the ulnar nerve in the upper extremities, and the peroneal nerves below. These peripheral nerves would grow as large in diameter as one's thumb in this condition.

The surgery consisted of exploring the nerve throughout its length of involvement; then the granuloma could literally be peeled off of the nerve, like peeling the skin off of a banana. The patients would experience immediate relief of pain and would often have a return of nerve function.

Transportation to Kalaupapa in the 1940s was via a single-engine Sikorsky airplane that set down in a pineapple field at the top of the cliff overlooking that isolated settlement. From there, one rode a mule down the winding trail to the small town below.

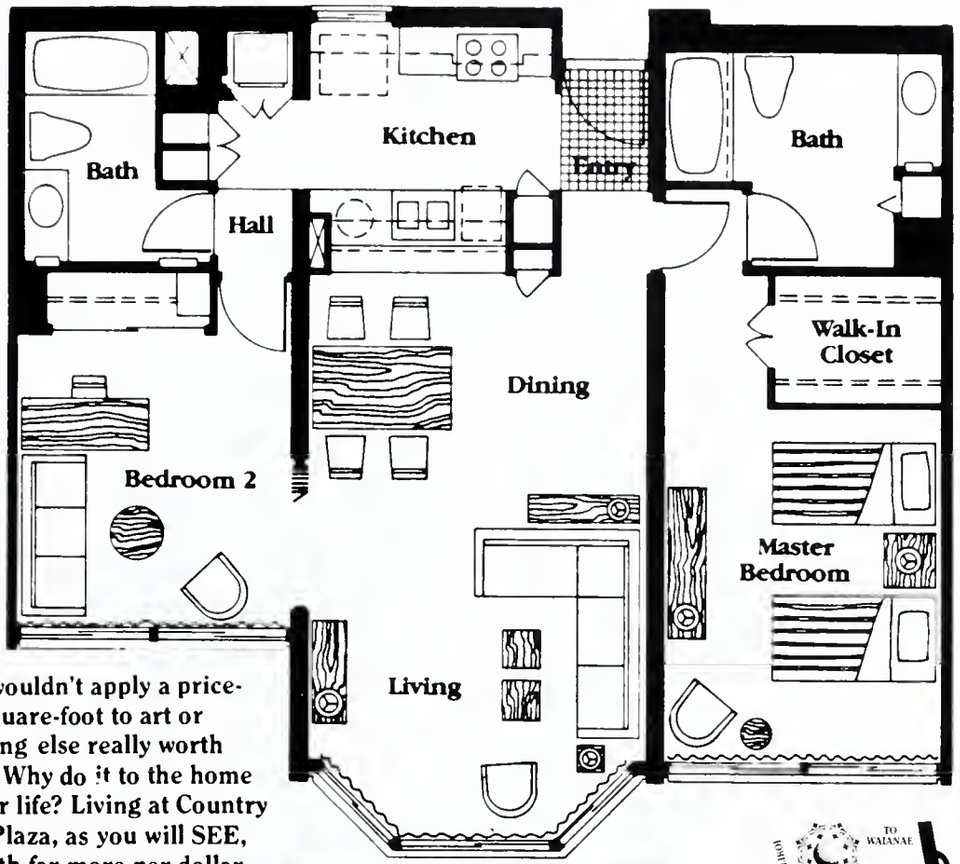
When Dr. Sloan left Kalaupapa in 1950 and Mr. Waddoups became the director there, sulfone chemotherapy had so reduced the number of reported and active cases of leprosy that the neurosurgical clinic was terminated.

Psychosurgery

The surgical treatment of mental disorders was introduced in 1936 by Egaz Moniz of Lisbon, Portugal, and was popularized in this country in 1940 by Freeman and Watts. I began performing the prefrontal lobotomy early in 1941, and had done more than 400 procedures by the time it was discontinued in 1952. Most operations were performed at the Territorial Hospital at Kaneohe, with a few at St. Francis and Queen's Hospital.

Indications for the operation were incurable psychosis, including manic depressive psychosis, paranoid schizophrenia, severe agitated depression, and

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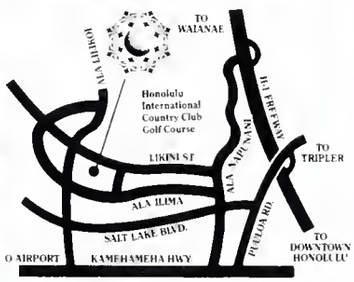
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intractable suicidal melancholia. Patients chosen for surgery had been confined to the institution for a minimum of 3 years, and had failed to respond to all other available forms of treatment, including psychotherapy, insulin, and electric shock treatments.

All patients were studied and evaluated pre- and post-operatively by Dr. Richard Kepner, psychiatrist, and Dr. Stanley D. Porteus, Ph.D., professor of psychology at the University of Hawaii. It was determined that the operation was successful in alleviating psychotic behavior in 80% of the patients. Within 1 year, 50% of the patients were functional and were able to leave the institution; 30% were improved, but remained institutionalized where they were able to hold simple jobs and assume some responsibilities. About 20% of the patients failed to respond to the surgery and were unchanged. Psychosurgery came to a sudden halt in the early 1950s with the introduction and widespread use of psychotropic drugs, especially the phenothiazines.

Neurosurgery in the 1940s

Other diseases of the nervous system treated during the 1940s included poliomyelitis, syphilis, hypertension, hydrocephalus, stroke, subdural hematomas, and hyperhidrosis.

Poliomyelitis

There is probably no disease more devastating to the human body than acute poliomyelitis. Infections in the nervous system resulting in meningitis and brain abscess were bad because of the extremely high mortality rate. In polio, many patients survived, but were severely handicapped with permanent, disabling paralysis.

In the winter of 1939-40, a devastating polio epidemic swept through Honolulu. Although polio was then referred to as infantile paralysis, this particular epidemic ravaged not only children, but young adults as well. Also, previous cases had been generally limited to the spinal cord with paralysis involving the trunk and extremities. In this epidemic there was a high percentage of bulbar polio, paralyzing the motor nuclei of the cranial nerve and the respiratory centers in the medulla.

The new Shriner's Hospital on Punahou St. near Beretania had recently been completed. This hospital was designated a treatment center for the acute polio cases. Within 10 days from the onset of the epidemic, nearly 300 cases were admitted to the Shriner's Hospital, overloading the facilities. Patients were housed in tents set up by the Army and Navy on the grounds. Since there was no specific treatment for polio, all we could do was treat the symptoms. The staff at Shriner's initiated the Sister Kenny treatment. This consisted of wrapping the paralyzed extremity with strips of hot, wet woolen cloth. This wrapping gave some relief of the severe pain of the paralyzed muscles, but did nothing for the disease.

Most of the patients with bulbar polio died, but a few survived with the aid of the iron lung. The Queen's Hospital had 2 iron lungs, Shriner's Hospital had 1, and the Armed Forces loaned us 4 or 5 more. Then we sent an emergency order to the Mainland, and had additional iron lungs flown in from California. At one time, 16 iron lungs were in use continuously.

Those of us who witnessed the suffering and the human destruction wrought by this horrible disease considered the development of polio vaccines as one of the greatest medical advancements of this or any century.

Syphilis

The City & County of Honolulu physician, Dr. Thomas Mossman, visited the Mainland and returned with a "sure cure" for central nervous system syphilis, including tabes dorsalis and general paresis. The "cure" involved elevating the patient's body temperature high enough to kill the spirochete.

To accomplish this, Dr. Mossman built a large wooden box that looked very much like a coffin. In this he installed 2 rows of incandescent light bulbs, 1 row down each side. A hole was cut in the top of the box, about the size of a person's neck. Treatment consisted of closing the box with the patient's head and neck on the outside, turning on the lights, and keeping the patient in the box until his body temperature reached 105°, as determined by oral thermometer. This usually required about 30 minutes. The standard course of treatment was 3 times a week for 1 month.

I am not sure just how effective this treatment modality was, but I do recall a patient Dr. Mossman had referred to me who had been "cooked" in the "hot box" for 1 month. He had been diagnosed as having central nervous system syphilis, based on an ataxic gait, deafness in one ear, and a positive spinal fluid Wasserman. Additionally, during the course of his "heat" treatments, the patient had developed paralysis of one side of his face (diagnosed as Bell's palsy) and had become "cross-eyed." Actually, the patient had suffered paralysis of the VI and VII cranial nerves.

My neurological examination disclosed papilledema of 4 diopters, and multiple unilateral cranial nerve involvement indicating a cerebello-pontine angle tumor. Ventriculogram showed an enormous hydrocephalus. An acoustic neuroma, the size of a hen's egg, was surgically removed. The positive Wasserman had been a "red herring." Eventually, the "hot box" treatments were discontinued.

Hypertension

Another "killer disease" during the 1940s was chronic malignant hypertension. This devastating disorder had a high mortality rate, striking down people in their 30s and 40s. Progressive elevation of blood pressure led to blindness from retinal hemorrhages, uremia, and death from chronic nephritis, plus strokes from cerebral hemorrhage. Medical treatment for the control of hypertension was in its infancy at that time. It was discovered, however, that the disease could be relieved by surgery, namely by a bilateral total sympathectomy.[1,15,23,24] Two general surgeons — Dr. James R. Judd and Dr. Joseph Strode — and I did most of these cases. The operation was done in two stages.

A long paravertebral incision extending from the second to the 12th rib was made. Every other rib was stripped subperiosteally, and 2 inches of the rib removed at the costovertebral angle. Through these "windows" into the chest cavity, the sympathectomy chain and successive ganglia could be resected in 1 long string, including the celiac axis above the diaphragm, and 2 lumbar ganglia below. A similar operation was performed on the opposite side, 1 week later.

Although this may sound like a formidable operation, it could be completed in about 45 minutes, complications permitting. The results were spectacular. The patient's blood pressure dropped immediately to low levels, with reversal of the hypertensive disease. Orthostatic hypotension was a problem in many cases. The patient would faint when he stood up unless his legs were wrapped tightly in elastic bandages.

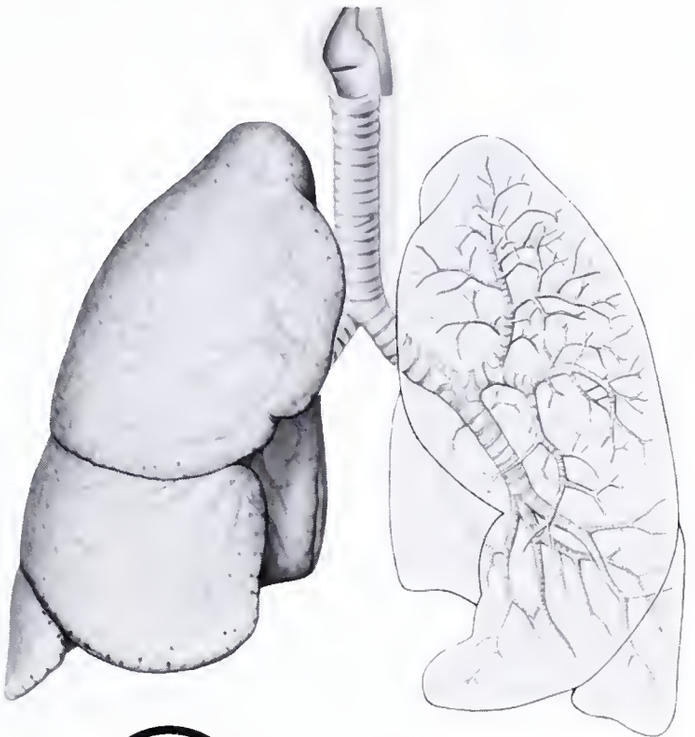
The sympathetic operation for hypertension also came to a sudden halt with the introduction of Rauwolfia drugs from India, and such derivatives as serpentine, serpentinine and reserpine, potent hypotensive agents, and sedatives with relatively low toxicity. Upper thoracic sympathectomy, however, continues to be used as the definitive treatment for hyperhidrosis palmaris.

Stroke

A common occurrence in the hypertensive patient was a sudden massive hemorrhage in the brain from spontaneous rupture of an intracerebral artery. These stroke patients, as the name implies, were literally struck down unconscious. The hemorrhage would cause an immediate and rapid increase in intracranial pressure, resulting in hemiplegia. The pulse and respiration would slow and blood pressure would rise rapidly. This would increase the hemorrhage, and the patient would die within a few hours of respiratory failure.

I had an emergency surgical treatment technique that I used for the stroke patient. A sterile "stroke" tray, kept in the

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Brief Summary Consult the package literature for prescribing information

Indications and Usage Ceclor (cetaclor Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae* and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication. Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins and cephalosporins), therefore it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile* Other causes of colitis should be ruled out

Precautions *General Precautions* — If an allergic reaction to Ceclor* (cetaclor, Lilly) occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy, appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur This has been observed with Benedict's and Fehling's solutions and also with Clinitest* tablets but not with Tes-Tape* (Glucose Enzymatic Test Strip USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis

Usage in Pregnancy — Pregnancy Category B — Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor There are, however, no adequate and well-controlled studies in pregnant women Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers — Small amounts of Ceclor* (cetaclor, Lilly) have been detected in mother's milk following administration of single 500-mg doses Average levels were 0.18, 0.20, 0.21 and 0.16 mcg/ml at two, three, four, and five hours respectively Trace amounts were detected at one hour The effect on nursing infants is not known Caution should be exercised when Ceclor is administered to a nursing woman

Usage in Children — Safety and effectiveness of this product for use in infants less than one month of age have not been established

Adverse Reactions Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70)

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor Such reactions have been reported more frequently in children than in adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients)

Causal Relationship Uncertain — Transitory abnormalities in clinical laboratory test results have been reported Although they were of uncertain etiology they are listed below to serve as alerting information for the physician

Hepatic — Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic — Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal — Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

[0617B2R]

Note Ceclor* (cetaclor, Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever See prescribing information

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emergency room, consisted of a #11 scalpel blade, a Bunnell hand drill, a large brain-puncture needle, and a small red rubber catheter. The stroke victim, after a rapid neurological examination, was operated on in his bed, either in the emergency room or on the hospital ward. The operation took exactly 3 minutes!

A dollar-size area on the scalp was shaved, the scalp painted with iodine, a small stab wound made in the scalp (without anesthesia), and a twist drill hole made through the skull and dura. The brain needle was passed into the brain, tapping the hematoma. Often the blood would spurt out through the needle across the room! When the bleeding had slowed down and the pressure was relieved, the needle was withdrawn and replaced with the small red rubber catheter, and a large gauze dressing was applied to the patient's head.

The following day, if the bleeding had ceased, the catheter was removed. Most of these patients survived. Their recovery was directly related to the length of time between the onset of hemorrhage and the initiation/completion of the emergency treatment.

Hydrocephalus

When a family doctor or pediatrician made a diagnosis of hydrocephalus in a child, the family was given the impression that the child had an incurable disease, and they were to accept the condition with stoic fatalism.[4] I tried to teach that the progressive enlargement of the child's head was not a disease but a secondary manifestation of a primary underlying pathological process in the brain. Hydrocephalus was divided into two types: obstructive and communicating.

Treatment of hydrocephalus was directed toward the causes. The obstruction or atresia was treated by creating a new intracerebral opening between the ventricle and the subarachnoid space. The first operation was a third ventriculostomy. A hole was created, by craniotomy, between the third ventricle and the dilated interpeduncular cistern. This was unsuccessful because proliferation of arachnoid would close the hole.

The second shunting procedure, devised by Torkeldson, bypassed the obstructed aqueduct with a small rubber catheter passed subcutaneously through trephine holes in the skull between the ventricle and the cisterna magna. This technique was used successfully for many years. A third method was a tube connection between the lateral ventricle and the superior longitudinal sinus.

The first extracranial shunt devised by Nosik was the ventriculo-mastoidostomy. A small ventricular catheter was attached to the cut-off end of a large needle hammered into the mastoid air cells. The excess ventricular fluid would drain through the eustachian tube and down the back of the patient's throat. This procedure was tried in a few cases, but retrograde infection and ventriculitis made the procedure too dangerous.

Other extracranial shunting procedures were devised with the advent of polyethylene tubing, by establishing communication between the ventricle and the ureter, the pleural and the intraperitoneal spaces, and the heart: the ventricular-atrial shunt. The intravascular and intracardiac tubes were unsuccessful because they became obstructed by blood clots.

The long tube shunting procedures were unsuccessful because the rate of flow and quantity of fluid shunted into the visceral cavities could not be controlled. These problems were finally solved with the invention of pressure valve mechanisms that could be built into the drainage system.

Obstructive hydrocephalus caused by tumors and abscesses were treated by surgically removing the primary pathology, depending on its location.

Communicating types of hydrocephalus are more difficult to treat. The treatment of retention of fluids was directed toward attempting to produce a balance between the rate of absorption and the rate of formation of the fluid. The choroid plexus within the ventricle was cauterized in an attempt to decrease the quantity of fluid formed below the absorption rate. The procedure, however, was abandoned because of the high mortality with the open operation. I performed a few successful choroid plexus procedures, using a ventriculoscope invented by Dr. John Scarf, but this technique was also discontinued because of the low success rate.

Subdural Hematoma

Chronic subdural hematoma was one of the most gratifying cerebral lesions to treat surgically. These encapsulated collections of blood, either liquid, clotted, or organized, accumulated between the dura and the brain, either unilaterally or bilaterally. These hematomas develop as a result of a fall or other minor injury that the patient may have forgotten. The symptoms vary widely and may include headaches, emotional and psychological changes in personality, convulsions, or progressive hemiplegia with coma (this latter condition often diagnosed as a stroke). The diagnosis was suspected if the patient had signs of increased intracranial pressure or papilledema. If this was not present, a pneumoencephalogram visualized the lesion. Otherwise, a positive diagnosis required exploratory burr holes in the skull.

I treated all of these lesions by osteoplastic craniotomy and total removal of the hematoma and its capsule. I mentioned that these lesions were gratifying. The recovery rate without neurological deficit was very high. In some, spectacular recoveries occurred. A patient in deep coma, given up for dead, would regain consciousness on the operating table and be alert and talking by the end of the operation.

Hyperhidrosis

Another disease entity included in the early history of neurosurgery in Hawaii is the treatment of hyperhidrosis. Excessive sweating of the palms and soles is an affliction known since ancient times. It was considered an incurable disease until 1920, when the first case was treated by surgical section of the cervical sympathetic trunk.[8] The medical literature in the 1930s was filled with papers describing various diseases treated by cervical-dorsal or upper thoracic sympathectomy, including hyperhidrosis.[16,22] Different operative approaches were used. These included the anterior transthoracic approach, the axillary approach, the posterior rib resection of Smithwick, and the anterior supra-clavicular approach. All of these operations were fraught with formidable complications and a high morbidity rate.

The surgical approach used in my early cases was Smithwick's posterior approach. A diagonal 4-inch muscle-splitting incision exposed the second rib, which was resected. Perforated pleura, pneumothorax, and collapsed lungs were a frequent occurrence, so the bilateral operation had to be done in two stages. The opposite side was operated on a week or two later.

In the early 1950s, with the development of new instruments, I changed the operative technique used for hyperhidrosis, which employed a midline skin incision and a unilateral laminectomy exposure. Special self-retaining retractors visualized the first, second, and third ribs; then, by a costo-transversectomy at T-2, the sympathetic trunk and second and third ganglia could be exposed and detached. A bilateral operation could be accomplished through the same incision.

I published 2 articles recounting my experience with the surgical treatment of hyperhidrosis.[8,13] Of the first 30 patients, 25 were of Japanese ancestry, with the majority from Okinawa. A statistical review showed that hyperhidrosis palmaris was a racial and hereditary disorder occurring more than 20 times more frequently in the Japanese than in other racial/ethnic groups.

There are few operations in surgery wherein the surgeon can guarantee the patient a 100% permanent cure rate for his affliction. This upper thoracic sympathetic gangliotomy for hyperhidrosis is one of them. I have followed a number of these cases for more than 45 years and can verify the ongoing results. I continue to perform this procedure on patients to this day.



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New Neurosurgeons Added

In 1948, Dr. Thomas S. Bennett came to the Islands as my assistant. Two years later, Dr. John Lowrey joined the Straub Clinic as its neurologist and neurosurgeon. For the next decade, the 3 of us shared the neurology and neurosurgery cases in Hawaii. In those days, there were 2 classes of patients in the hospitals: private patients and City & County of Honolulu patients. County patients were those who were unable to pay for medical care, and both the doctor's fees and hospital charges were waived.

My practice was composed of 40% private patients and 60% county patients. We 3 surgeons provided neurological and neurosurgical services to all City & County patients on an annual rotating basis at Queen's, St. Francis, and Children's Hospital.

Highlights of Treatment of the 1950s

- The sudden demise of prefrontal lobotomy with the development and widespread use of psychotropic drugs,
- The use of carotid angiography for the diagnosis of cerebrovascular lesions, including aneurysms and arterio-venous malformations,
- The introduction and development of surgical treatment for Parkinson's disease and other neurological disorders that caused involuntary movements,
- The continued refinement of posterior interbody fusion operations for lumbar disc disease, and
- The development of the anterior cervical approach for the treatment of intervertebral disc and other lesions of the cervical spine.

Parkinson's Disease

In 1943, unsuccessful attempts were made to relieve the tremor, rigidity, and gait disturbances in Parkinson's disease by various surgical procedures on the basal ganglia,[19] the premotor cortex,[2] and the pyramidal tracts.[21] These operations carried too great a risk of disability for general use in the treatment of Parkinsonism.

A new vista in surgical treatment appeared in 1952 when Dr. Irving Cooper inadvertently arrested the tremor of Parkinson's disease by accidently occluding the anterior choroidal artery. This resulted in infarction of the medial globus pallidus of the basal ganglia.

There followed a series of techniques to produce intentionally a surgical lesion in various nuclei of the basal ganglia. Narabayashi used a stereotactic instrument to inject procaine in oil into the globus pallidus.[20] Cooper injected alcohol — the chemopallidectomy — first by the subtemporal and later the transfrontal route.[14]

I visited Cooper in May 1956 at St. Barnabas Hospital in New York and spent 2 weeks studying his cases and his surgical techniques.

My early experience with the operation was acquired by operating on Parkinson's patients at the Territorial Hospital, Kaneohe. Results were poor in the beginning, but improved with the development of more accurate localization of the target area, the dentro-lateral nucleus of the thalamus, and the development of special stereotactic equipment to produce the correct size and shape of the cerebral lesion. The lesion was made with a cryoprobe, a coagulation probe or a needle with a retractable wire loop. I used the latter instrument in a series of nearly 100 patients over a 10-year period. The results were most gratifying in relieving tremor and rigidity in the majority of cases.

The surgical treatment of involuntary movements was discontinued in the 1960s with the introduction of L-Dopa. The last Parkinson's I operated was a retired physician, on May 7, 1975. This is another example of a sound and valuable neurosurgical procedure being replaced with medical treatment.

There is hope, however, for a revival of the thalamotomy operation. An article from Japan in the current *Journal of Neurosurgery* reviews a 10-year follow-up on a large series of thalamotomy patients who demonstrated not only marked improvement of motor symptoms of Parkinsonism, but no progression of the disease until death.[18] These results were superior to the 15 years' experience with L-Dopa. Hopefully, the surgical treatment of Parkinson's disease will be reinstated.

Sciatica

One of the most common complaints to afflict mankind is low back pain, or "lumbago," and its companion symptom of sciatica. This has been known as "the syndrome of the intervertebral disc," since it was first described by Mixter and Barr in 1934. The sciatica could be relieved by surgical removal of the intraspinal disc protrusion.[9]

I did my first operation of this type as assistant to my professor, Percival Bailey, 2 years after the original description of the syndrome (1936). During my first 5 years in Honolulu, I operated on many patients with sciatica and low back pain, especially after Pearl Harbor (December 7, 1941). The labor required to build our wartime defenses resulted in many low back injuries.

The standard operation for removal of the intraspinal disc herniation was successful in relieving the sciatica, but many laborers were unable to do heavy work because of low back pain. A surgical method was needed that would relieve both the sciatica and the back pain and permit the laborer to return to his job in the shortest period of time with a minimum of disability.

The idea for this operation was suggested by a Filipino plantation worker. When I told him I was going to remove his disc, his question was, "If you take out the disc, what are you going to put in place of it?"

In 1943, I performed my first "lumbar disc replacement operation," by removing the disc and replacing it with a bone graft obtained from the posterior iliac crest. The operation was successful from the beginning in relieving both the sciatica and the low back pain.

The operation evolved rapidly, from a unilateral 1- or 2-graft fusion, to a bilateral 3- or 4-graft operation. The number of successful fusions increased when more bone grafts were used.

The need for more bone grafts led to the development of a bone bank in 1946. Bone grafts were prepared from the ilia of young cadavers, preserved in blood plasma, and stored in a deep freeze. This method of banking cadaver bone was used successfully until 1962 in more than 2,000 spinal fusion operations. My Hawaii Bone Bank was one of the first bone banks to be established in the country, and is certainly the oldest in continuous operation today.[11]

In 1948, Lindbloom[17] demonstrated the procedure of discography. I immediately adopted this diagnostic radiological tool to identify, preoperatively, the pathological disc responsible for low back pain. I published a description of the technique of the lumbar discography in 1951.[10] I have continued to use lumbar discography as my primary preoperative examination as an indication for the posterior longitudinal interbody fusion (PLIF) operation.

During the 1950s I continued to treat all my lumbar disc cases by the PLIF technique, enjoying a success rate of more than 90%. I devised many new surgical instruments, and published several papers on the subject. During this period I experimented with and abandoned the use of polyethylene plugs used with the bone grafts, Keil Bone, a commercially sterilized bovine bone, and also did a small series (23 cases) of interbody fusion by the transabdominal approach.

Anterior Cervical Interbody Fusion

After 13 years of successfully treating low back pain and sciatica due to lumbar disc disease, I devised a similar operation for disc diseases of the cervical spine; namely, a procedure that removed the disc and replaced it with bone grafts for an anterior cervical interbody fusion (ACIF). This was accomplished by using an anterior surgical approach. During the summer of 1956, I operated on many cadavers (autopsy material), studying the anatomy of the approach, developing the details of the operation, and devising new surgical instruments to accomplish this procedure. My first patient was a

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Catholic nun operated on at St. Francis Hospital in November 1956.[12]

The introduction of any new and revolutionary surgical procedure is often met with profound criticism and rejection. The anterior cervical operation was no exception. It required almost 10 years before it was adopted by a few courageous surgeons who published the results obtained in their first cases. During this time, I was very active, traveling and operating throughout the world, demonstrating my interbody fusion operations.

Finally, the "Cloward procedure," as it is universally known, has become the standard operation for most herniated cervical disc lesions, replacing the old posterior nerve root decompression. There are still, however, pockets of resistance to the anterior cervical operation, particularly in some East Coast medical centers, where "decompressive cervical laminectomies" still are advocated.

Neurosurgery in the 1960s

The anterior surgical approach to the cervical spine has opened an entirely new vista of operations for the spine surgeon's armamentarium. It has made possible the surgical removal and repair of pathological lesions involving the cervical spine, anterior to the spinal canal, lesions that heretofore had been considered inaccessible and inoperable.

Over the next 25 years, I have perfected surgical techniques and used the anterior approach for the following pathological conditions:

- acute cervical disc protrusions,
- cervical myelopathy due to multiple-level cervical spondylosis,
- treatment of cervical spine injuries, whiplash, and dislocations including odontoid and hangman's fractures (C2-3),
- total vertebrectomy and bone replacement for: (a) compression fractures, (b) destructive infections and metastatic malignancies, and (c) removal of ossified posterior longitudinal ligament (OPLL)
- anterior cervical cordotomy for intractible cancer pain.

All of these surgical techniques are accompanied by interbody fusion using cadaver bone from the Hawaii Bone Bank.

PLIF Updated

Although the anterior cervical fusion operation has been universally accepted, most surgeons are unaware that the posterior lumbar interbody fusion (PLIF) antedated the cervical operation by 13 years, yet there has been little acceptance of this operation as treatment for lumbar disc disease. The reason is probably due to the reluctance on the part of the spine surgeon to: (1) give up or replace an easy half-hour discectomy operation for a difficult 3-hour fusion procedure, and (2) to

develop and maintain a bone bank.

Recently, however, there has been an upsurge in interest in the PLIF operation. Successive PLIF workshop symposia held in 1982 and 1983 attracted more than 300 interested spine surgeons to Honolulu to learn how to prevent and treat the "failed back syndrome." These patients are incapacitated from low back and recurrent leg pain following one or more discectomy operations. The PLIF operation is the answer to this syndrome. If it is performed as the initial operation for the herniated disc, the "failed back" does not occur. If it is used for treatment of the "failed back," the success rate in salvaging these iatrogenic cripples is higher than with any other lumbar operation.

Bone Bank Updated

The technique of preparing and preserving cadaver bone for the bone bank did not change from 1946 to the early 1960s. The bone was removed from the cadaver under sterile conditions, cut into appropriate sizes, preserved in blood plasma, and stored in the deep freeze. The use of outdated plasma was finally discontinued because of the danger of hepatitis. It was replaced by trypticase-soy, a new culture medium. The grafts were partially washed with saline before culturing and freezing. This technique was used until 1975.

When the availability of and requirement for hospital autopsies diminished to almost nothing, our donor source for obtaining sterile bone disappeared. The only source of bone was then coroner's cases obtained from the morgue. Our bone bank technique had to be completely revised, since the iliac bone had to be removed from these cadavers under unsterile conditions. A method was sought to sterilize the bone without changing its properties so the body would not reject it.

Since sterilization with heat or certain chemicals adversely affects the bone, ethylene oxide gas was used to sterilize the bone grafts. This was found to assure a sterile graft without damage to the bone protein. It was necessary, however, to remove all fat and blood elements from the bone prior to gas sterilization because these elements combined with ethylene oxide to form chemicals that may be toxic to the body.

After 3 years of experimentation, a new and simplified method was developed to establish a bone bank of human cadaver bone sterilized with ethylene oxide gas. This technique has been adopted, and is now the standard method used by all commercial bone banks throughout the country. I have used gassed bone grafts successfully for spinal fusion operations since 1975 in 714 cases.

Summary

This review of the history of neurology and neurosurgery in Hawaii has documented the treatment of diseases of the nervous system over the past 45 years that the author has had the privilege and pleasure of living through and practicing. Over this period many great contributions to the progress of medicine have been made. Some of these were unique to Hawaii. The Pearl Harbor attack and the wartime surgical experience that followed presented an opportunity to study and learn valuable lessons in the treatment of head injuries and other war wounds.

The surgical treatment of leprosy, hypertension, stroke, and the removal of enormous undiagnosed brain tumors were historic experiences that neurosurgeons may not have again. It was exciting to perform and follow many valuable surgical procedures and techniques such as prefrontal lobotomy and thalamotomy from their inception and through their peak of popularity. It was depressing to witness their demise and replacement by drug therapy. The surgical techniques had helped a lot of people.

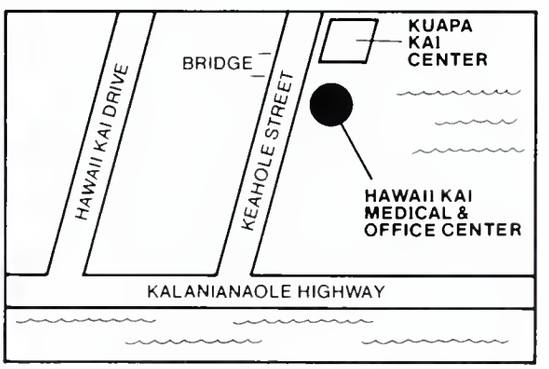
Original and lasting contributions to neurosurgery that originated in Hawaii during this period are the many interbody fusion procedures for lumbar and cervical spine disorders, the operation for hyperhidrosis and the bone bank. It is

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my prediction that as surgeons become better acquainted with these various surgical techniques, a new sub-specialty of spine surgeons will evolve. Hopefully, these operations will not die, but will continue to help people for a long time.

The practice of neurology and neurosurgery has changed markedly in the past decade. With the invention of the computerized anatomical tomography (CAT) scan, nuclear magnetic resonance (NMR), and the use of the surgical microscope, early and accurate preoperative diagnosis of intracranial lesions has resulted in a remarkable change and improvement in the surgical technique and outcome of brain surgery. This will probably continue to improve with the passage of time, but many procedures used today may also become obsolete, as has occurred in the past.

REFERENCES

1. Atkins, HJB: Sympathectomy by axillary approach. *Lancet* 1:538, 1954.
2. Bucy PC, and Case TJ: Tremor: Physiologic mechanism and abolition by surgical means. *Arch. Neurol. & Psychiat.* 41:721-746, 1939.
3. Cloward RB, and Kepner RD: Meningioma of thirty years duration — report of a case. *Arch. Neurol. & Psych.* 50:327-334, 1943.
4. Cloward RB: Hydrocephalus, diagnosis and treatment. *Hawaii Terr. Med. Assn. Journal.* 91-100, 1939.
5. Cloward RB: Surgical treatment of craniocerebral war wounds. *Hawaii Med. J.* 165-168, 1942.
6. Cloward RB: War injuries to the head; treatment of penetrating wounds. *JAMA.* 118:267-270, 1942.
7. Cloward RB: Brain tumors in Hawaii, 1938-1948; statistical review of 85 verified cases. *Hawaii Med. J.* 8:188-193, 1950.
8. Cloward RB: Treatment of hyperhidrosis palmaris (sweaty hands). *Hawaii Med. J.* 16:381-387, 1957.
9. Cloward RB: Recent improvements in the surgical treatment of low back pain due to ruptured lumbar intervertebral discs. *Hawaii Med. J.* 11:279-285, 1952.
10. Cloward RB, and Buzaid LL: Discography: technique, indications and evaluation of the normal and abnormal intervertebral disc. *The American Journal of Roent. and Rad. Therapy and Nuclear Medicine.* 68:552-564, 1952.
11. Cloward RB: The treatment of ruptured lumbar intervertebral disc by vertebral body fusion. III. Method of sse of banked bone. *Ann. of Surg.* 136:987-992, 1952.
12. Cloward RB: The anterior approach for removal of ruptured cervical disks. *J. of Neurosurg.* Vol. XV, No. 6, 602-617, 1958.
13. Cloward RB: Hyperhidrosis. *J. of Neurosurg.* Vol. XXX, No. 5, 545-551, 1969.
14. Cooper IS: Ligation of the anterior choroidal artery for involuntary movements — Parkinsonism. *Psychiat. Quart.* 27:317-319, 1953.
15. Craig WM, and Brown GE: Unilateral and bilateral resection of major and minor splanchnic nerves: Its effect in cases of essential hypertension. *Archs. Intern. Med.* 54:577-596, 1934.
16. Kotzareff A: Resection paritelle du trono droit du grand sympathique cervical pour hyperdrose unilateral de meme cote. *Rev. med. de las Suisse Rom.* 40:111, 1920.
17. Lindbloom K: Technique and results in myelography and disc puncture. *Acta Orthop. Scandinav.* 20:315, 1951.
18. Matsumoto K, Shichijo F, and Fukami T: Long-term follow-up review of cases of Parkinson's disease after unilateral or bilateral thalamotomy. *J. Neurosurg.* 60:1033-1044, 1984.
19. Meyers R: A surgical procedure for post-encephalitic tremor, with notes on the physiology of the premotor fibers. *Arch. Neurol. & Psychiat.* 44:455, 1940.
20. Narabayashi H, and Okuma T: Procaine oil blocking of the globus pallidus for the treatment of rigidity and tremor of Parkinsonism. *Proc. Japan. Acad. Med.* P. 29, 1953.
21. Putman TJ: Relief from unilateral paralysis agitans by section of the lateral pyramidal tract. *Arch. Neurol. & Psychiat.* 40:1049, 1938.
22. Smithwick RH: Modified dorsal sympathectomy for vascular spasm (Raynaud's disease). *Arch. Surg.* 104:339-350, 1936.
23. Telford ED: The technique of sympathectomy. *Brit. J. Surg.* 11:448, 1935.
24. White JD, Smithwick RH, Allen AW, and Mixter WJ: A new muscle splitting incision for resection of the upper thoracic sympathetic ganglion. *Surg. Gynec. & Obst.* 56:651, 1933.

You're as old as you feel . . .

Aging and the Nervous System

Stanley Batkin, M.D., Honolulu

• *Theories of aging include fixed genetic cell division programming, immunity, hormonal and nutritional factors, free radicals cross-linkage effects, and lipofuscin accumulation. The nervous system also may be relevant. A "neurotrophic" factor necessary for proper functioning of innervated tissues can have a role in the development of the aging process. Being both an innervated and innervating organ, the brain's "neurotrophic" effect may be heightened or decreased by changes in the environmental sensory endogenous and exogenous input. Could nervous system aging be modified by these means?*

Although "neurotrophic" relations have been studied for some time, this system is as yet imcompletely understood. However, it is now generally accepted that an adequate nerve ("neurotrophic") input-output-input activity is necessary for the proper maintenance and coordination of the bodily innervated structures[1,2]—among which is the brain. Since the brain is both an innervated and innervating organ, alterations in the system of communication in the peripheral and central nervous system neurones may well affect the "trophic" regulation and maintenance of the associated innervated tissues. A decrease in the nervous input and output following impaired or decreased environmental sensory stimulation would now have negative regulatory effects.

The nervous system does have an important role in organizing and modulating our physiological functions and behavior. It is important in maintaining the "health" and efficiency of its associated innervated tissues, and the "health" of the central nervous system is also maintained by proper sensory input. Alterations in this neuronal structure can therefore have widespread repercussions with direct involvement of the aging

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process. Degenerative and atrophic tissue changes can follow a reduced nervous input, while increased use can produce tissue hypertrophy.

With the age-related functional decrease, especially with disease, the total neuronal output may lead to further central neuronal degenerative changes via the decreased "neurotrophic" regulatory input. Such changes can further aggravate the cerebral aging processes and thus hasten neuronal senescence and deleterious tissue changes. This will be further aggravated by decreased environmental stimulation and lowered activity.

Previous studies of visual sensory deprivation have indicated related anatomical central nervous system deficiencies. In our study of auditory deprivation in albino rats postnatally for 8 months, a significant loss of auditory sensitivity occurred, but this was partly reversible after 3 weeks of sound exposure.[3] Studies of human adults have similarily demonstrated a close interrelationship between adequate levels of environmental sensory stimulation and normal sensory-perceptual functioning.[4]

As noted previously by Krech[5] and continued by Rosenzweig et al.,[6] exposure of rates to stimuli-enriched environments resulted in increased cortical weights with larger cell bodies, nuclei, and increased dendritic branching as well as neuronal enzymatic changes related to the cholinergic system. In a study by Evoniuk et al.,[7] of a group of maternally deprived rat pups, it was noted that tactile stimulation, especially heavy, short stroking on the back and head areas prevented the decrease in specific heart, liver, and brain enzymes, including the growth hormone, associated with maternal deprivation. Many other examples have been reported in the neuropsychological literature of the relevance of environmental input to maintenance and proper functioning of the nervous system.[4]

Diamond,[8] in a relevant report, also emphasized the major importance of a stimulating environment in opposing the commonly accepted deterioration associated with aging. By maintaining a non-impoverished environment in a rat colony, neural structural changes usually associated with aging were minimized. The nervous system was altered both negatively and positively by environmental changes, and a proper input did retard and oppose the deterioration reported with aging. Thus, the environment surrounding the individual and the brain may well be as relevant as pre-existing genetic components and age programming.

Spirduso,[9] in a recent review of physical fitness and aging, emphasized the important relationships between the trophic influence of activity (=neuronal input) and the improved functioning of the central nervous system. Improvement in physical fitness (via increases sensory-motor neuronal activity) may postpone general psychomotor decline in the elderly and increase their confidence and self-image. Mateef[10] also has suggested that a "correct combination of mental activity and physical exercise or sports is at present the best method of preserving as long as possible the activity of the brain cells at a high level with respect to their extremely important regulating and trophic functions of the organism." Others, reviewing the muscle changes with age, have also indicated the importance of continued neuronal stimulation. The usual impaired muscular efficiency with age does not take place in the diaphragm and respiratory muscles since these structures are neurally stimulated continuously.

The brain does lose weight in the process of aging. However, there is a redundancy of nerve cells which may still allow proper functioning in spite of the cellular decrease with age. Cell loss of itself does not necessarily equate with functional loss. Physiological reserves are present in many organs including the brain. Adequate functioning, for example, can still occur with the loss of one kidney, the spleen, large portions of the intestines, and portions of the liver and the brain. The environment can be an important factor to the continued adequate tissue functioning. It is neuronal connectivity (and not only the actual number of cells) via the dendritic-synaptic connections with their neurotransmitter information transer that may well be the crucial relevant critical factor in maintaining neural efficiency and physiological cerebral functioning.

As has been reported in the previous studies and more recent reviews, [11,12] distinct anatomical impairment of dendritic-synaptic connections and associated decrease in some neurotransmitters can follow a lack of proper sensory and environmental input. It is now suggested that although the brain is not a muscle, and both have postmitotic cells, decreased input and inactivity will result in impaired functioning in both structures. Atrophy of the important cerebral neuronal connections can follow impoverished exogenous and endogenous input. Correspondingly, increased environmental stimulation can enhance and maintain neuronal activity and functioning.

The concept of "agism" also may well be a negative inhibiting factor in our present youth-oriented society. By accepting the mistaken concept of "agism" at a specific age — e.g., 65 years — individuals suddenly qualify as an irrational number. They now can, via a societectomy procedure, be removed from their previous productive functions and activities. The associated social deprivation and personal devaluation will now only compound "the vicious cycle of aging." An important factor of aging in our society is probably first sociogenic and then biological. The cliche, "use it or lose it," has much neurological merit. Neurobehavioral plasticity of the older brain does remain and can be affected by socioenvironmental changes.

In the absence of disease, the nervous system has the potentiality under suitable conditions of hindering the deterioration associated with aging. In addition to the many theories of aging, should we not also consider a "neurotrophic" factor? By thoughtful manipulation of cerebral sensory and environmental inputs could we not regulate and postpone the aging process, especially "senescence" of the central nervous system?

Hippocrates (circa 400 B.C.) was aware of the need for proper stimulation. He wrote, "All parts of the body which have a function, if used in moderation and exercise in labors to which each is accustomed, become healthy and well developed and age slowly; but if unused and left idle, they become liable to disease, defective in growth and age quickly."

Aerobics via both a suitable mind and body gymnasium may thus be very relevant as a distinct regulatory feature of the aging process.

REFERENCES

1. Guth L: "Trophic" effects of vertebrate neurons. *NeuroScience Res. Program Bull.* 7(1):1-73, 1969.
2 Gutman E: Neurotrophic relations. *Ann. Rev. Physiol.* 177-216, 1976.
3. Batkin S, Groth H, Watson JR, Ansberry M: Effects of auditory deprivation on the development of auditory sensitivity in albino rats. *Electroencephalogr. Clin. Neurophysiol.* 28(4): 351-359, 1970.
4. Riesen AH (ed.): *The Developmental Neuro Psychology of Sensory Deprivation.* Academic Press, Inc., 1978.
5. Krech D et al.: Environmental impoverishment, social isolation and changes in brain chemistry and anatomy. *Physiol. & Behav.* 1:99-104, 1966.
6. Rosenzweig MR, Bennett EL, Diamond MC: Brain changes in response to experience. *Scientific American* 226(2): 22-30, 1972.
7. Evoniuk GE: The effect of tactile stimulation on serum growth hormone and tissue ornithine decarboxylase activity during material deprivation in rat pups. *Commun. Pychopharmacol.* 3:363-370, 1979.
8. Diamond MC: The aging brain: Some enlightening and optimistic results. *Amer. Scientist.* 66:66-71, 1978.
9. Spirduso WW: Physical fitness, aging and psychomotor speed: A review. *I. Gerontology.* 35(6):85-865, 1980.
10. Mateef D: Morphological and physiological factors of aging and longevity, 7, Health and Fitness in the Modern World. Athletic Inst. 1961.
11. Ord JM, et al.: Sensory function and short-term memory in aging. Chap. 3 in The Aging Nervous System. F.J. Pirozzolo and G.J. Malettaceds Praeger Publ., N.Y. 1980.
12. Samuel D, Algeri S, Gershon S, Grimm VE, Toffano G (eds.): *Aging of the brain.* New York, Raven Press, 1983.

Orbital Bruits in Atherosclerotic Cerebrovascular Disease—
An Oriental Phenomenon

Michael M. Okihiro, M.D., Honolulu

• *Twenty-five patients with orbital bruits due to atherosclerotic cerebrovascular disease of the intracranial portion of the internal carotid artery were reviewed. Although Hawaii is a cosmopolitan state, almost all the patients were Orientals. Twenty-two were Japanese, 1 was Korean, and 2 were part-Hawaiian. No Caucasians were seen. The average age was 71.4 years. There were 7 men and 18 women. Twenty patients were hypertensive, and 12 were diabetic. Ten patients presented with transient ischemic attacks (TIAs) and 7 with strokes. Six patients with unilateral bruits presented with TIAs appropriate to the ipsilateral hemisphere. Four patients with completed strokes presented with a hemiplegia and ipsilateral unilateral orbital bruits; no bruit was audible over the contralateral orbit on the side of the stroke. Cervical carotid bruits were heard in almost half of the patients, suggesting the possibility of tandem stenotic lesions.*

Intracranial bruits can originate from a variety of conditions including vascular abnormalities, brain tumors, and, occasionally, general disorders such as profound anemia and thyrotoxicosis.[1,2,3]

Aside from neurologists, few physicians listen for bruits over the eyes and head. Over the past three years or so, I have seen 27 patients with orbital bruits, and present a summary of these cases, seen primarily in the Japanese.

The orbital bruit was due to a carotid-cavernous fistula in one case and a large arteriovenous malformation in another. This paper will deal primarily with the remaining 25 cases which are due to, or thought to be due to, atherosclerotic cerebrovascular disease (ACD).

Twenty-two of the patients were of Japanese ancestry, 1 was a Korean woman, and 2 were part-Hawaiian. The age at the time of discovery ranged from 49 to 89 years; the average age was 71.4 years. There were 7 men and 18 women.

Twenty of the patients were hypertensive and taking medications. Four patients were normotensive, and 1 patient had blood pressures recorded between 130/80 and 160/90.

Twelve patients were diabetic. Two of them required insulin, 8 required oral hypoglycemic agents, and 2 were controlled by diet alone. There were 2 patients with borderline levels of blood sugar, while the others had normal blood sugars.

Ten patients presented with transient ischemic attacks (TIAs). Seven patients had strokes. The other 8 patients had no symptoms suggesting either TIAs or strokes. Four patients had evidence of coronary heart disease, and 4 patients had intermittent claudication or absent pulses in the lower extremities.

Four patients had angiograms, and all demonstrated narrowing of the intracranial portion of the internal carotid artery (ICA). One of the patients also had an extracranial stenotic lesion at the origin of the ICA (EICA) on the same side as the more distal intracranial lesion.

Four patients died. Three were autopsied and had evidence of severe atheromatous changes in the ICA.

TIAs

Of the 10 patients who presented with TIAs, 6 had unilateral orbital bruits and presented with signs and symptoms appropriate to that cerebral hemisphere. The following is a case summary of such a patient.

Case Summary No. 1. This 49-year-old registered nurse has had insulin-dependent diabetes for 4 years. Two months prior to admission, she began to have bouts of blurred vision in the left eye and intermittent numbness of the right upper extremity. One episode also involved the right lower extremity.

The neurological examination was normal, except for the presence of a soft bruit audible only over the left eye. A CT brain scan was normal. Oculoplethysmography (OPG) was abnormal, with an ophthalmic systolic pressure of 106 from the right eye and 83 from the left. Cerebral angiograms revealed 70% stenosis of the cavernous portion of the left ICA. An extracranial-intracranial (EC-IC) bypass proeedure was performed.

Ipsilateral Sign

Of the 7 patients who presented with completed strokes, 4 had unilateral orbital bruits and ipsilateral hemiplegia. No bruits were audible over the contralateral orbit, which was the side of the stroke, probably because a previously stenotic

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area had recently become occluded. The following is a case summary of such a patient.

Case Summary No. 2. This 89-year-old Japanese woman was a very active and alert lady until one morning, when she was found on the roadside near her home in an unresponsive state. When examined a short while later, she was completely aphasic, her eyes were deviated to the left, and she had a flaccid right hemiplegia. A loud bruit was heard over the right orbit and a very faint one over the left. A CT brain scan showed a swollen left hemisphere, without midline shift. She died 48 hours after admission. At autopsy, a large left parietotemporal cerebral infarction was found. The cavernous portion of the left ICA showed an atherosclerotic plaque and was occluded by a fresh thrombus.

Unilateral Bruits

Unilateral orbital bruits were heard in 17 of the 25 patients. In a few of them, a very faint bruit was audible over the contralateral eye, but it is thought that the bruit originated unilaterally. The other 8 patients had bilateral orbital bruits.

Carotid bruits were also heard in about half of the patients. Seven patients with unilateral orbital bruits and 6 with bilateral orbital bruits also had carotid bruits. The following is a case summary of a patient with unilateral carotid and orbital bruits and tandem carotid stenotic lesions.

Case Summary No. 3. This 69-year-old hypertensive Japanese woman had a single transient episode of "shaking" on her left side 5 years prior to admission. A right carotid bruit was noted at that time. On November 30 and December 1, 1982, she again noted "shaking" on her left side. On examination, she had both a right carotid and right orbital bruit. A CT brain scan was normal, but OPG was significantly lower on the right. Carotid angiograms revealed 70% stenosis at the origin of the right ICA, with an ulcerative plaque, and a second stenotic lesion in the supraclinoid segment of the ICA.

On December 20, 1982, she developed a mild left hemiparesis. She was started on heparin, with partial clearing of the hemiparesis, and the orbital bruit could no longer be heard. On December 22, a right carotid endarterectomy was performed; at surgery it was noted that she had very poor backflow from the distal segment of the ICA. Postoperatively, there was no improvement. On December 27, the left-sided weakness became worse. EC-IC bypass was performed, but no subsequent improvement was noted.

Discussion

In this cosmopolitan state of Hawaii, about one-fourth of the population is Caucasian and one-fourth Japanese. In this study on orbital bruits, most of the patients were Japanese, and no Caucasians were seen.

In 1975, Baker, Katsuki et al. published a cooperative study on strokes in Caucasians and Japanese.[4,5,6] Of the 128 patients from Minnesota who had angiograms, only 3 had significant abnormalities in the carotid siphon, whereas, of the 111 Japanese who had angiograms, 29 had significant carotid siphon lesions. On the other hand, 31 of the Minnesotans (presumably white) had a greater than 50% stenosis at the origin of the ICA, and only 17 of the Japanese had similar lesions.

In 1975, Brust studied the angiograms of 296 patients from Hawaii with strokes.[7] He noted a significant difference in the incidence of stenotic and occlusive lesions of the extracranial and intracranial portions of the ICA. In the Caucasians, 28 patients had extracranial and only 8 had intracranial lesions. In the Japanese, 25 had extracranial and 28 had intracranial lesions.

In a prevalence study of carotid bruits in an older population (more than 45 years old) in Olmstead County, Minn., Sandok et al. found carotid bifurcation bruits in 22 of 509 persons (4.3%).[8] Orbital bruits were not heard.

Kagen et al. found cervical carotid bruits in 137 of 7,498 Japanese men (1.8%) from Hawaii between ages 45 to 69,[9] but, unfortunately, orbital bruits were not listened for.

It appears from these studies, as well as others, that the pattern of ACD differs significantly in Caucasians and Japanese, and, in the latter, the usual site of the lesion is in the more distal intracranial portion of the ICA. Our data would indicate that this lesion may announce its presence as an orbital bruit.

The patients with orbital bruits not infrequently will present with TIAs and strokes. With the advent of EC-IC bypass surgery, it would seem that more patients with lesions in the ICA may benefit from this procedure. Although the precise indications for EC-IC bypass have yet to be defined, TIAs due to ACD of the ICA certainly appear to be a good indication. A second type of patient who has had a mild stroke with significant recovery, and an appropriate lesion in the ICA, may be another.

REFERENCES

1. Wadia NH, Monckton G: Intracranial bruits in health and disease. *Brain* 80:492-509, 1957.
2. Brodsky LP: Auscultation of the human eye as a potential diagnostic aid. *M. Am. Optom. Assoc.* 51:1031-1032, 1980.
3. Cohen JH, Miller S: Eyeball bruits. *N. Engl. J. Med.* 255:459-464, 1956.
4. Baker AB, Katsuki S: Strokes: A study of a Caucasian and Oriental population. *Modern Medicine* Pp. 148-153 (Nov. 17, 1969).
5. Baker AB, Katsuki S: Strokes, U.S. and Japan. A study of a Caucasian and Oriental population. *Geriatrics* 24:83-84, 1969.
6. Kieffer SA, Amplatz K, Takeya Y III: Angiographic studies. *Geriatrics* 24:100-110, 1969.
7. Brust RW Jr: Patterns of cerebrovascular disease in Japanese and other population groups in Hawaii: An angiographic study. *Stroke* 6:539-542, 1975.
8. Sandok BA, Whisnant JP, Furlan AJ, Mickell JL: Carotid artery bruits: Prevalence survey and differential diagnosis. *Mayo Clinic Proc.* 57: 227-230, 1982.
9. Kagen A, Popper J, Rhoades GG, Takeya Y, Kato H, Goode GB, Marmot M: Epidemiologic studies of coronary heart disease and stroke in Japanese men living in Japan, Hawaii and California: Prevalence of stroke. Cerebrovascular Disease, p. 267-277, 1976.

Reflections of a Former Queen's Resident

We are indebted to Dr. Mike Okihiro for gathering the various papers in this issue from some of the skilled neurologists and neurosurgeons now populating our community.

In Dr. Cloward's historical recap, he mentions the time in the 1950s when he, Tom Bennett, and John Lowrey were the only specialized practitioners of the neurological-neurosurgical arts in the then Territory of Hawaii.

It was on a Sunday morning in July 1957 that I first met Dr. Cloward, as he came to the Queen's Hospital autopsy room where I was pulling Sunday duty as a first-year pathology resident. He had been trying to save a rather young (40-ish) man's life, but the patient had succumbed to a "red infarct" — a brain hemorrhage.

Later, at the end of a year of psychiatry residency in 1968, I had the privilege of "scrubbing" with Dr. Cloward at Queen's during my 3-month stint on neurology-neurosurgery.

It was then, too, that Dr. Okihiro shared with me his knowledge and skill in dealing with a young woman (my age) with myasthenia gravis.

Calvin Kam first crossed our path when he had arrived at the Washington University School of Medicine in St. Louis to begin freshman studies and my husband, Cas, had matched with the Queen's Hospital in Honolulu for a rotating internship. Calvin told us all about Hawaii and we told him all about "Wash-out" U. and St. Louis. Ah, but Cal was a handsome devil in those days!

Space does not permit further reflections of the many intellectually inspiring hours spent in the company of the men who have brought us these papers and others not here represented. Aloha to them all!

Doris R. Jasinski, M.D.
Managing Editor

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All special events should be confirmed with the CME program sponsors, as cancellations are not necessarily reported to the HAWAII MEDICAL JOURNAL.

Dec. 8-15, 1984	Cross-Cultural Medical Care: A Way to Improve Our Practices, with Dr. Donald Char. Write to: Dee Chang, Continuing Medical Education, 1960 East-West Road, Honolulu, Hawaii 96822, (808) 948-6949. Location: 7-day cruise around the Hawaiian Islands.
Dec. 16-22, 1984	American Chemical Society International Congress, 1155 16th Street, N.W., Washington D.C. 20036. Location: Sheraton Waikiki, Honolulu.



Left to right: Audi 5000S Wagon, Porsche 944, Porsche 911 Carrera Targa, Porsche 911 Carrera Cabriolet, Audi 4000S, Porsche 911 Carrera Coupe, Porsche 928S, Audi 5000S.



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Dec. 24-29, 1984	Emotional Growth in Adult Life-II, American Institute of Medical Education, (818) 842-8818. Location: Kauai Surf.
Dec. 26, 1984-Jan. 2, 1985	Medicine, Magic, and Religion, University of Washington School of Medicine, Continuing Medical Education, SC-50, Seattle, Wash. 98195, (206) 543-1050. Location: Royal Lahaina Hotel on Maui.
Dec. 27-29, 1984	Allergy and Asthma, Symposium Maui, Inc., Joe Harrison, M.D., P.O. Box 10185, Lahaina, Maui 96761, (808) 661-8032. Hawaii Medical Association, 320 Ward Avenue, Suite 200, Honolulu, Hawaii 96814, (808) 536-7702. Location: Royal Lahaina Hotel on Maui.
Jan. 3-5, 1985	Allergy and Dermatology, Symposium Maui, Inc., Joe Harrison, M.D., P.O. Box 10185, Lahaina, Maui 96761, (808) 661-8032. Hawaii Medical Association, 320 Ward Avenue, Suite 200, Honolulu, Hawaii 96814, (808) 536-7702. Location: Royal Lahaina Hotel on Maui.
Jan. 5-12, 1985	Update in Internal Medicine, International Conferences, 189 Lodge Avenue, Huntington Station, N.Y. 11746, (516) 549-0869. Location: 7-day cruise around the Hawaiian Islands aboard the SS Constitution.
Jan. 7-18, 1985	The Hawaii Conference on International Health Promotion and Disease Prevention, School of Public Health, University of Hawaii at Manoa, 1960 East-West Road, Honolulu, Hawaii 96822, Dr. Jonathan Raymond, (808) 948-7337. Location: Maui.
Jan. 10-12, 1985	Allergy and Immune Diseases in Children, Symposium Maui, Inc., Joe Harrison, M.D., P.O. Box 10185, Lahaina, Maui 96761, (808) 661-8032. Location: Royal Lahaina Hotel on Maui.
Jan. 14-16, 1985	Common Problems in Obstetrics, American College of Obstetrics and Gynecology, 600 Maryland Avenue S.W., Suite 300E, Washington D.C. 20024. Attn: Anna Beal. Location: Waiohai Hotel, (808) 922-0400.
Jan. 17-19, 1985	Aging and Vitality, American College of Obstetrics and Gynecology, 600 Maryland Avenue S.W., Suite 300E, Washington D.C. 20024. Attn: Anna Beal, (202) 638-5577. Location: Waiohai Hotel.



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Jan. 18-27, 1985	Hospital Trustee Forum, Estes Park Institution, Box 400, Englewood, Colo. 80151. Location: Kauai.
Jan. 19-26, 1985	Management of Traumatic Emergencies, American Institute of Postgraduate Education, Del Mar, Calif. Contact: Edith Bookstein/AIPE, P.O. Box 2586, La Jolla, Calif. 92038, (619) 454-3212. Location: Kailua-Kona, Hawaii.
Jan. 19-26, 1985	Topics in Perinatal Medicine, with Dr. Robin Willcourt, University of Hawaii School of Medicine, Continuing Medical Education, 1960 East-West Road, Honolulu, Hawaii 96822, c/o Dee Chang, (808) 948-6949. Travel agent: GTU, Inc., 720 North Street, Asaph Street, Alexandria, Va. 22314-1997, (703) 836-4888. Location: 7-day cruise around the Hawaiian Islands.
Jan. 20-26, 1985	Sixth Annual Royal Hawaiian Eye Meeting, Hawaiian Eye Foundation. Contact: Dr. John Corboy, (808) 621-8448. At: The Royal Lahaina Hotel on Maui.
Jan. 27-31, 1985	Advanced Seminars for Physicians, Administrators, and Trustees, Estes Park Institution, Box 400, Englewood, Colo. 80151. Location: Maui.
Jan. 27-Feb. 2, 1985	10th Annual Post Conference Oncology Seminar, Los Angeles Radiological Society Continuing Education Committee, (213) 642-0921. Location: Waiohai-Poipu Beach on Kauai.
Jan. 27-Feb. 2, 1985	11th Annual Post Conference Radiology Seminar, Los Angeles Radiological Society Continuing Education Committee, (213) 642-0921. Location: Waiohai-Poipu Beach on Kauai.
Jan. 28-31, 1985	Cardiology Update, The Straub Clinic & Hospital, 888 South King Street, Honolulu, Hawaii 96813, (808) 523-2311, ext. 8153. Location: Sheraton Waikiki, Honolulu.
Jan. 28-Feb. 1, 1985	Acute MI—Contemporary Diagnostic and Patient Management Methods, International Medical Educational Corp., 64 Inverness Drive East, Englewood, Colo. 80112, (800) 525-8651. Contact: Beverly Jacobsen. Location: Maui.
Jan. 28-Feb. 1, 1985	Cross-Sectional Imaging CT and MRI, Professional Seminars, (201) 379-1100. Location: cruise around the Hawaiian Islands aboard the SS Constitution.
Jan. 28-Feb. 1, 1985	Gastrointestinal and Hepatic Diseases—Medical/Surgical Implications. Contact: Gastroenterology 1985, 1380 Lusitana Street, Suite 701, Honolulu, Hawaii 96813, (808) 536-1021. Location: Hyatt Regency Hotel, Maui.
Jan. 31-Feb. 2, 1985	Advanced Seminar for Physicians, Administrators, and Trustees, Estes Park Institution, Box 400, Englewood, Colo. 80151. Location: Kona.
Feb. 2-5, 1985	Otolaryngology Update, University of California-Davis School of Medicine, 4301 X Street, Room 208, Sacramento, Calif. 95817, (916) 453-2801 or 453-2666. Location: Hilton Hawaiian Village in Honolulu.
Feb. 2-9, 1985	Infectious Diseases, University of Colorado School of Medicine, CME; 4200 East 9th Avenue, Box C-295, Denver, Colo. 80262, (303) 394-5241. Contact: Joann Bauer. Location: Kona.
Feb. 5-8, 1985	Cardiology Update. Contact: Moana, Straub Clinic, 888 South King Street, Honolulu, Hawaii 96813, (808) 523-2311, ext. 8153. At: Hilton Hawaiian Village, Honolulu, Hawaii.
Feb. 9-16, 1985	Fifth Annual Sports Medicine Now, American College of Sports Medicine. Contact: Stuart Zeman, M.D., Course Chairman, 2999 Regent Street, Suite 203, Berkeley, Calif. 94705, (415) 540-8686. Location: Maui Surf.
Feb. 11-14, 1985	Update in Laser Medicine and Surgery, Pacific Laser, 119 Merchant Street, Suite 601, Honolulu, Hawaii 96813, (808) 523-6842. Location: Hawaiian Regent Hotel.
Feb. 12-16, 1985	Course in Complex Coronary Angioplasty by Dr. Geoffrey Hartzler, Mid America Heart Institute of St. Luke's Hospital of Kansas City, (816) 932-2220. Location: Maui Surf.
Feb. 16-23, 1985	Nephrology, University of Southern California School of Medicine, Postgraduate Division; 2025 Zonal Avenue, KAM 307, Los Angeles, Calif. 90033. Location: Kapalua, Maui.
Feb. 16-23, 1985	Ethics in Medicine, with Dr. Charles Bodemer, University of Hawaii School of Medicine, 1960 East-West Road, Honolulu, Hawaii 96822, c/o Dee Chang, (808) 948-6949. Location: 7-day cruise around the Hawaiian Islands.
Feb. 16-23, 1985	Perinatal Medicine, University of Southern California School of Medicine, Postgraduate Division; 2025 Zonal Ave., KAM 307, Los Angeles, Calif. 90033. Location: Maui.
March 2-9, 1985	Medicine and Civilization in China, University of Washington School of Medicine, E303 Health Sciences Center, SC-50, Seattle, Wash. 98195. Location: Sheraton Kauai on Poipu Beach.
Feb. 25-March 3, 1985	Update in Digestive Diseases, Professional Seminars, (201) 379-1100. Location: cruise around the Hawaiian Islands aboard the SS Constitution.
March 9-16, 1985	Imaging Solutions for the '80s, University of Washington School of Medicine, Division of CME, E303 Health Sciences Center, SC-50, Seattle, Wash. 98195, (206) 543-1050. Location: Royal Waikoloa, Kona.
March 16-23, 1985	Hawaiian Culture and Healing, Dr. Andrew Allan, University of Hawaii School of Medicine, Continuing Medical Education, 1960 East-West Road, Honolulu, Hawaii 96822, c/o Dee Chang, (808) 948-6949. Location: 7-day cruise around the Hawaiian Islands.
March 16-23, 1985	Advances in Drug Therapy, University of Washington School of Medicine, Division of CME, E303 Health Sciences Center, SC-50, Seattle, Wash. 98195, (206) 543-1050. Location: Royal Lahaina Hotel on Maui.
March 18-22, 1985	University of Hawaii Sports Medicine Course, College of Continuing Education and Community Service, Sakamaki Hall, 2530 Dole Street, Honolulu, Hawaii 96822, (808) 948-8244, c/o Joy Lewis. Location: Princess Kaiulani Hotel, Honolulu.
March 22-April 7, 1985	Chinese Culture and Healing, Dr. Andrew Allan, University of Hawaii School of Medicine, Continuing Medical Education, 1960 East-West Road, Honolulu, Hawaii 96822, c/o Dee Chang, (808) 948-6949. Location: 16-day tour of China.

Dementia: Early Diagnosis with an Endogenous Event-Related Potential (Auditory P300)

J.W. Pearce, M.D., Honolulu

• *An objective neurophysiologic measurement, the auditory P300 cognitive-evoked potential, can make a contribution to the clinical diagnosis of dementia. In particular, it can help define what may be normal mild cognitive decline and differentiate this effect of aging from early dementia and depression.*

Dementia is a broad generic term applied when there is evidence of a progressive diffuse decline in the higher cortical activities of the brain. The impairment of memory, attention, and learning are well-known core signs. Specific and hopefully reversible etiologies are sought clinically, but when none are found the presumptive diagnosis of dementia of Alzheimer's type (DAT) can be made. This exclusionary method of making the clinical diagnosis of DAT is necessary because proof of diagnosis rests upon neuropathologic features seen postmortem. Alzheimer's disease, which includes both what formerly was called "senile" and "presenile" dementia, accounts for greater than 50% of all diagnoses of dementia.

Objective neurophysiologic measurements of brain activity should play an important role in the assessment of patients with possible dementia. The electroencephalogram (EEG) has long been accepted as a measure of cortical function. As such when a dementing process causes cortical dysfunction, the EEG would be expected to be a useful tool. Unfortunately, the EEG is notoriously insensitive in the early stages of dementia of various etiologies including DAT[15], though it can show abnormal slowing late in the course; the EEG may also be of use in the diagnosis of some structural (i.e. tumor) or metabolic etiologies of the "treatable" dementias.

Several other types of tests, such as CT, NMR, or PET scans, as well as regional cerebral blood flow studies, also may not show abnormalities until later in the course of the disease and, even then, provide only anatomic or metabolic data rather than direct assessment of neurocognitive function. Since there is no current effective treatment (aside from palliative) for DAT, it would be important to have a test sensitive to the detection of brain dysfunction in the early stages of dementia and capable of distinguishing this from normal effects of aging and depression. This type of test would then be useful to help document any effects of putative treatments.[14] Goodin and his group were among the first to suggest that a special kind of auditory-evoked potential with long

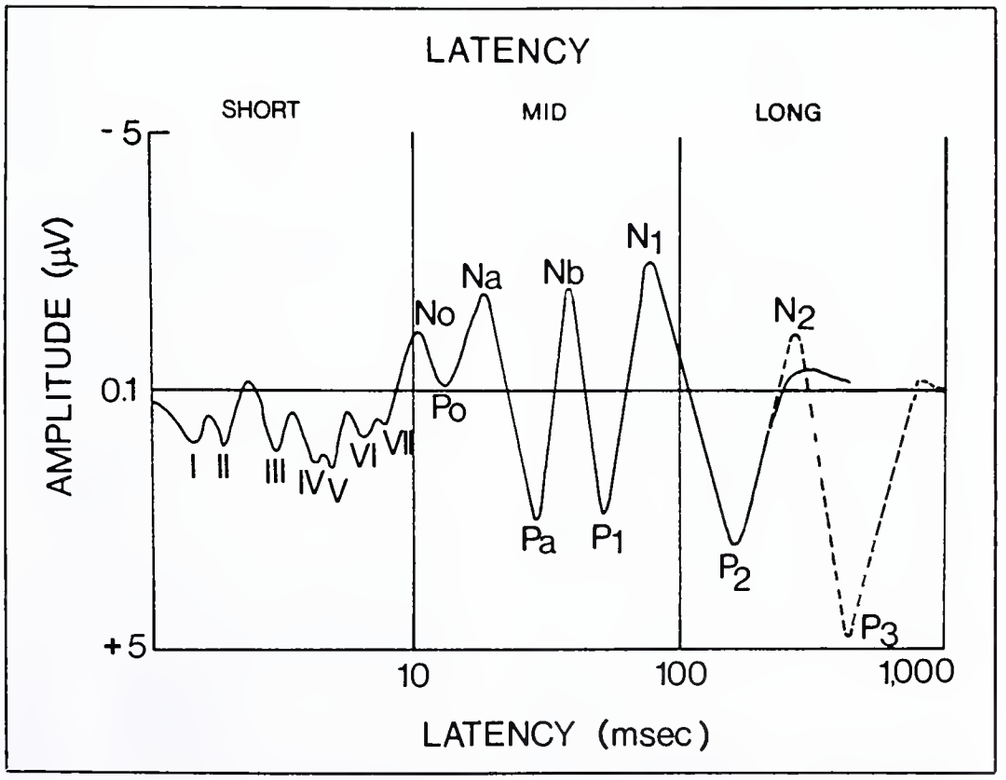


Fig. 1. An idealized set of auditary-evaked potentials fallawing a brief saund. Early (shart latency) brainstem auditory-evoked patential (BAEP), followed by mid-latency and then lang-latency task-related respanses. The P300 (P3) wave may ar may nat be present dependent on stimulus recognition as indicated by the datted line.

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latency (P300) could fulfill these requirements as an objective neurophysiologic measure of cognitive function.

Evoked Potentials

The use of evoked ("event-related") potentials in clinical neurology has gone from little more than a curiosity 10 years ago to become a useful neurodiagnostic tool. These responses consist of small waves recorded from the brain occurring in a direct time-linked relationship to an external stimulus. They cannot usually be seen in a routine EEG because of their low amplitude (0.1-20 microvolts) and the signal-to-noise ratio. However, with the application of signal-averaging techniques with repetitive stimuli, these waves can be extracted from the other ongoing electrical activity of the brain so that they may be clearly visualized. The tests in common clinical use include responses to auditory, somatosensory, and visual stimuli; each type may be divided into 3 classes, based on the latency of the response (in milliseconds) following the stimulus. Short latency responses (<30 milliseconds), such as the brainstem auditory-evoked potential, are fairly reproducible, sensitive, and have some well-defined anatomic substrates. As such, they have found common clinical use. They are sensitive to stimulus characteristics but insensitive to patient "state" and, therefore, relatively unaffected by anesthesia or coma. In general, at the other end of the spectrum, the long-latency responses (>100 milliseconds) may be quite altered by state or psychological variables but not so stimulus-dependent. These long-latency responses are termed cognitive or "endogenous," since they do not arise just as a result of a stereo-typed stimulus, but reflect what intrinsic signal-processing the brain does with a signal-detection task.

This apparent drawback of being state-dependent has been used to investigate those very same cognitive neurophysiologic functions that result in this state-dependency. The most widely studied of these endogenous-evoked potentials, the long-latency auditory-evoked potential (P300), will be reviewed and its potential applications discussed. An idealized set of auditory responses classed by latency is given in Fig. 1. As illustrated by the dotted line in the long-latency class, the presence of the response (labeled P3 or P300) is dependent upon recognition of a rare stimulus. In the absence of this recognition, the P300 wave becomes either severely attenuated or does not occur at all.

Methods

The manner in which the auditory P300 is elicited in our laboratory is a slightly modified method from what we have previously described.[21] A target detection or "oddball" stimulus paradigm, composed of tone pips at 1,000 Hz 85% of the time ("common") and 2,000 Hz 15% of the time ("rare"), is presented binaurally, while recording from midline scalp electrodes at central and parietal areas, with reference to linked mastoids and automatic exclusion of eye blink artifact. The subject's task is to maintain a count or at least attend to the rare tones. After 40 trials of responses to rare tone presentation are obtained, they are averaged, and latencies of the N100, P200, and P300 waves are determined (waves being named by vertex polarity and idealized latency in milliseconds). In our clinical use of this test, we rely on the normative data base established with this particular stimulus paradigm to which we previously referred.[21] An abnormally delayed latency is declared if it falls outside 2 standard deviations from this age-corrected normative data. Values for most adults fall between 300 and 400 milliseconds depending upon age.

Individual Case Studies

Case A: A 62-year-old, right-handed, married man had a 1-year history of increasing forgetfulness. He admitted only to being unable to recall small things, such as where he laid his car keys or other household objects, etc. He denied any major social or monetary loss because of mental dysfunction, claiming that his visit to the clinic was only because "my wife brought me here" and "I

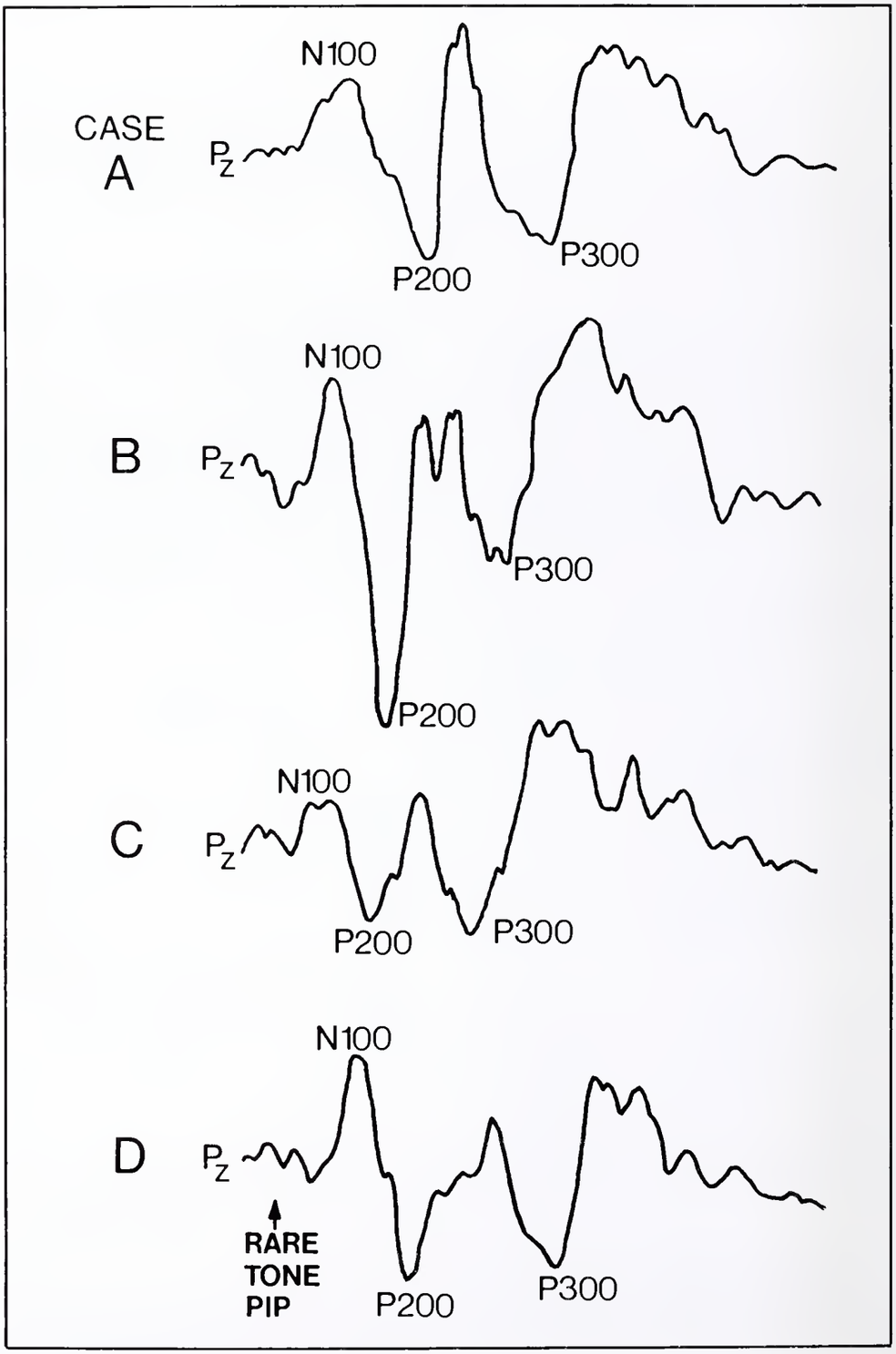


Fig. 2. Long-latency event-related potentials of the four cases presented. Waves are named for identification only. The exact latencies of the P300 waves are given in the text.

feel fine." The time course of his complaint coincided roughly with his retirement from a life-long occupation of running a small grocery store, but the exact reasons for retirement remained vague. The wife confirmed no severe problems; however, she described a relative but definite change in some memory function and some deteriorating social interaction. She stated he was "just not himself."

There was some mild lack of persistence in pursuing hobbies, interaction with friends, etc. Basic social skills remained entirely intact. There was no history of sleep or appetite disturbance. He did not smoke and had a moderate alcohol consumption, never exceeding 2 to 3 beers per day. Family history was significant for a single brother who has clinically documented Alzheimer's disease. Past medical history and surgical history was unremarkable; he had recently undergone a general medical check-up.

Upon coming to the clinic, medical and detailed neurologic examinations were performed, showing some mild problems with short-term memory, in that he was able to recall only 1.5 objects at 5 minutes, but there was otherwise intact cortical and basic neurologic function to bedside testing. His affect was pleasant and there was no evidence of aphasia. Because the patient's complaints persisted, subsequent investigations were obtained, including CAT scan, metabolic screen (B-12, VDRL, T4, ANA, SMA-12) and EEG, all of which were within normal range.

Psychiatric evaluation, including MMPI and a Luria battery, were performed; there was no evidence of depression or other emotional illness. The P300 expected latency for this age is 363 milliseconds; the patient's P300 was 425 milliseconds (Fig. 2), far exceeding 2 standard deviations for his age. After 6 months, he continued to show mild but steady loss of social and memory function of the same type with which he initially presented. No occult emotional problem had declared itself. His diagnosis is presumed mild DAT. The P300 in this case identified a mild loss of higher cortical function when all other tests were negative, and correctly distinguished it from what might be, superficially, a depression secondary to retirement.

Case B: A 63-year-old married housewife visiting from another city was brought in by her daughter because of a severe change in mentation. Episodes of confusion, disorientation, and impaired memory were new since the daughter had last seen her mother. The problem was thought to have been present over the last year or so; she had seen a psychiatrist and was said to possibly be depressed, but was not taking any medications. There were mild sleep and appetite disturbances. The patient said she felt "sad a lot" and related this feeling to her husband's alcohol intake. General medical and neurologic examination was normal, except she could only recall 2 of 3 colors at 5 minutes on mental status testing. She could not seem to subtract serial 7s further than 93, and she appeared nervous. The CAT scan was normal; the EEG showed some questionable non-specific increased theta frequency in drowsiness. MMPI was normal and the P300 was also normal at 377 milliseconds with an expected latency for this age of 364 milliseconds (Fig. 2). She was started on an antidepressant, and 3 weeks later was feeling markedly improved, without episodes of confusion. She was shortly to return to the Mainland and have psychiatric follow-up. The P300 in this case was normal, suggesting an emotional basis for the episodes of severe clinical confusion.

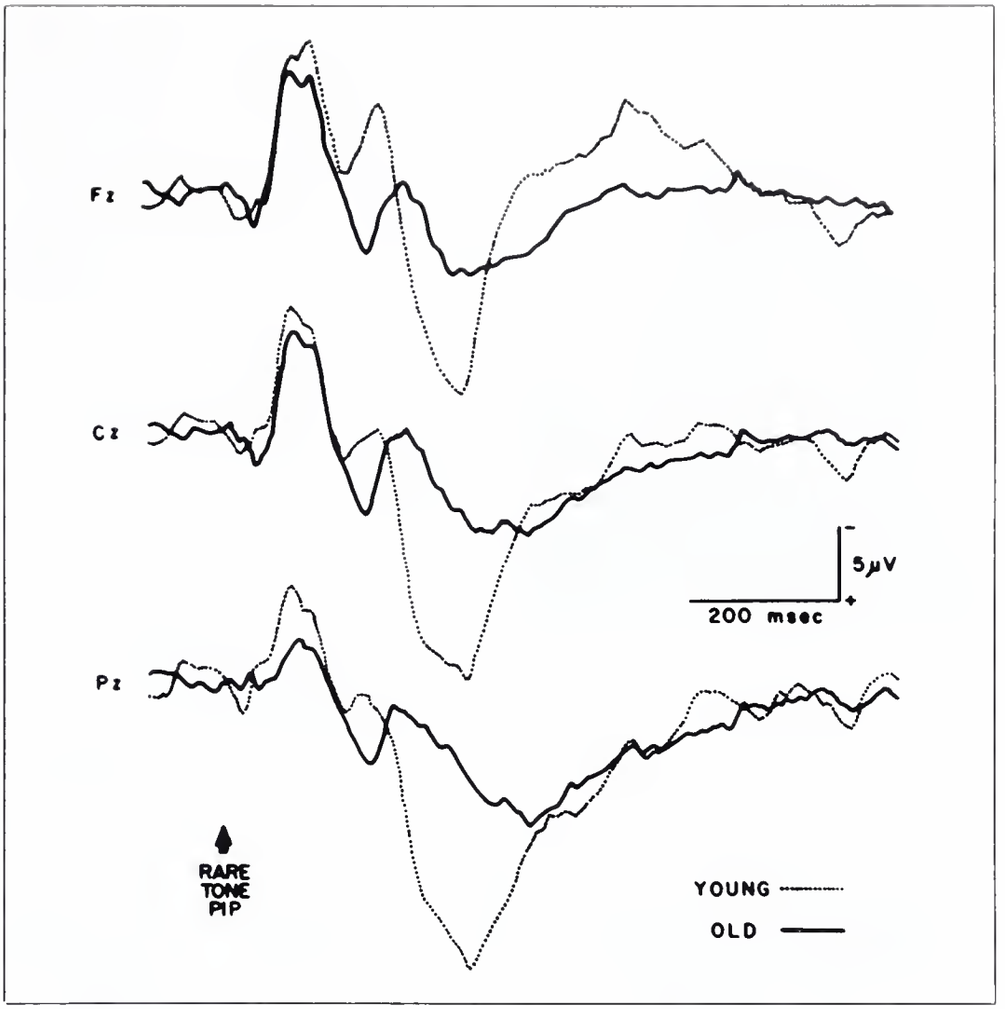


Fig. 3 Grond mean long-latency event-related potentials of five young (dotted line) and five old (solid line) normal controls (from Syndulko et al.[21] with permission).

Case C: A 41-year-old single right-handed man was referred to the clinic by a government agency for a re-evaluation of total disability on the basis of cerebral dysfunction. He was brought in by a companion who claimed to have his power-of-attorney and who did most of the home care for him. This companion provided most of the history, stating that in 1975 the patient had been injured in a bicycle accident, striking his head against a tree, with resultant multiple skull fractures and "clots on the brain" surgically treated. He had remained in a coma for a month. (Records of this injury and care were not available for review at the time of the examination.) Following the accident, the patient was unable to work at his prior occupation as a dishwasher. The patient himself claimed he could not get along with people. He had had many episodes of emotional outbursts and could not remember "anything." He also complained of poor concentration. He smoked and drank an unknown amount. There was no diet or sleep abnormality. No other medical problems were noted and he took no medications. General medical exam was unremarkable, except for scars over the scalp and evidence of post-surgical skull defects. He was alert and cooperative through the exam, but gave the general appearance of mild to moderate diminished intelligence. His pre-existing educational background was unknown. Immediate memory was intact but remote memory was in some instances impaired, according to confirmation by the companion. The remainder of the neurological examination was unremarkable. EEG and P300 were both normal; the patient declined formal psychometric testing. This case exhibits evidence of a normal P300 in the face of focal brain damage to the frontal lobes, involving resultant personality and memory changes.

Case D: A 48-year-old woman was referred for progressive subjective memory


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loss. She had been seen 6 months previously for peripheral neuropathy, secondary to insulin-dependent diabetes. She had a history of breast carcinoma Stage II with subsequent mastectomy and was about to undergo another course of Alkeran. History of memory problems seemed vague, and she had no other neurologic complaints. She appeared moderately depressed. Repeat neurologic examination showed lack of interest in testing higher cortical function, and no evidence of focal neurologic change. Her memory was impaired for some recent and some remote items. Psychometric testing, including a Luria-Nebraska battery, showed elements of depression, but also distinct evidence suggesting organic brain dysfunction. EEG was mildly abnormal on the basis of diffuse theta activity, greater than expected for age and state. P300 was markedly abnormal, showing a latency of 465 milliseconds, normal age-corrected latency being at 349 milliseconds (Fig. 2). Laboratory studies were obtained, as well as a general search for the possibility of metastatic disease including a head scan, all of which were negative. This suggests a dementia of unknown etiology. The possibilities include DAT or dementia from remote effect of carcinoma. While depression seemed very likely from her clinical affect and in fact was confirmed, the whole picture was not simply on the basis of emotional dysfunction, and organic brain disease was supported by P300 and psychometric tests.

The cases noted above have been specially chosen to exhibit the usefuless of the P300 when the clinical presentation may seem borderline or complex. In dementia of more intense degree, the P300 is still useful, but there are other obvious correlates of dementia that may make the diagnosis straightforward.

Discussion

P300 Latency, Cognition, and Aging. The development and decline of central nervous system function during a life span is attended by specific changes in behavior and cognition. The P300 latency seems to correlate with these changes of cognitive ability, showing its shortest latency in the teen-age years and progressive lengthening of latency with increasing age at about 1.8 milliseconds per year in a well-documented fashion.[3,11,21] This increasing latency with age is illustrated in Fig. 3. For technical reasons, it has not been studied much in infants and children, but some reports suggest with non-auditory P300 evoked-potential a progressive shortening of latency up to the teen-age years. This might correlate with the development of cognitive ability. We are currently investigating this with the auditory P300 in normal children.

While it is clear that the P300 is a manifestation of cognition, its exact nature remains unknown. It is thought to relate to central nervous system processing time of stimulus selection and decision.[6,11,14,21] The precise neuroanatomic substrate also remains un-

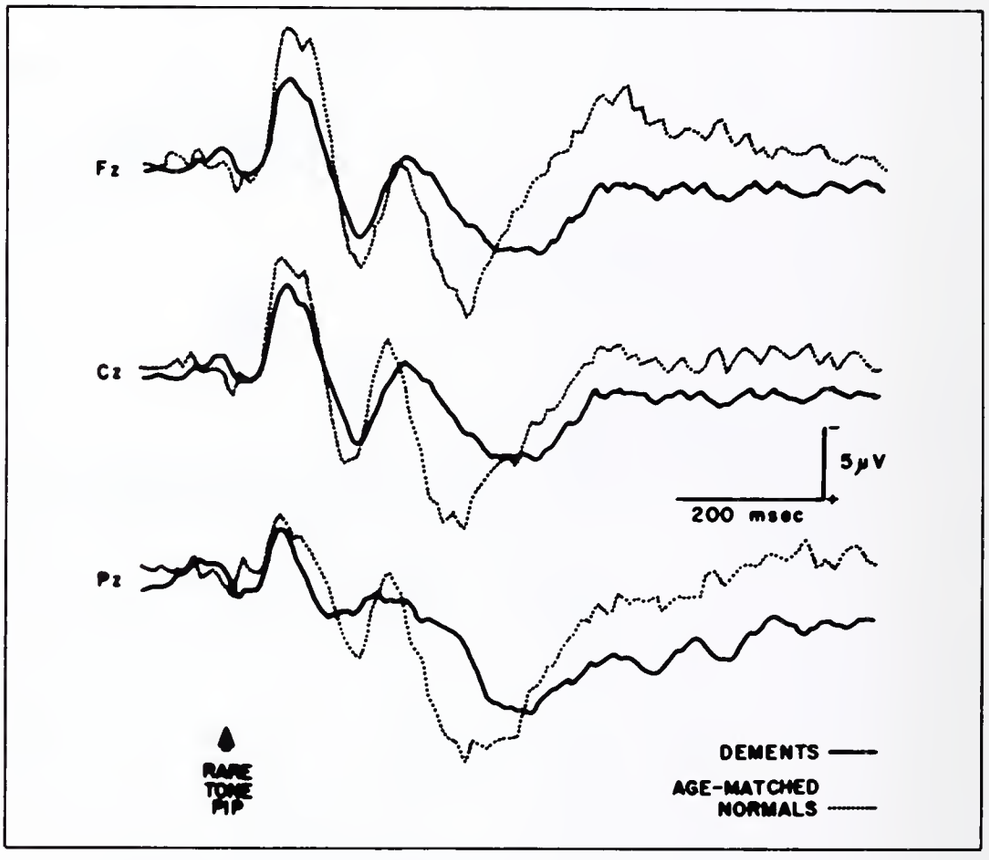


Fig. 4 Grand mean lang-latency event-related patentials af 12 demented patients (solid line) cantrasted with 12 narmal cantrals (datted line) shawing abnarmally prolonged latencies in the demented graup (fram Syndulka et al.[21] with permissian).

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known, though during depth electrode studies[8,9] the P300 wave appeared to be generated in the hippocampal formation of temporal lobe, an area well-known to be involved with memory and cognitive function. However, removal of one temporal lobe (or damage to either or both frontal lobes as in Case C does not obliterate the wave.[9]

In some animal studies of a similar (possibly identical) wave,[1,22] a bi-parietal locus is suggested. The amplitude of the P300 on the scalp at the parietal location is maximum at this point. It may be that the P300 does not arise from a specific brain site, but comes from an interactive functional source which in fact may be more consistent with the process of cognition, bearing in mind concepts of mind-brain interaction.

Other aspects of cognition may play a role in variables of the P300 in addition to latency as described. The amplitude of P300 increases with increasing improbability of the stimulus and latency increases with increasing task difficulty.[12] Motor reaction times do not influence the P300.[13]

Although the use of "memory" seems directly linked to the stimulus discrimination task, it has not been sorted out, and focal amnestic syndromes with otherwise intact higher cortical function have normal P300s. Again, focal brain disease does not seem to affect the wave.

P300 and Dementia. The use of P300 in the diagnosis of dementia has been rather extensively studied. [2,3,14,15,19,20,21]. Most reports describe a consistent ability of the P300 to identify 80% to 85% of dementia patients[21] on the basis of a latency in excess of 2 standard deviations from age-matched normals, as displayed in Fig. 4. False negatives occasionally occur, but false positives are very rare, some studies citing that no false positives occur.[2,21] A high correlation exists between abnormal mini-mental status scores of Folstein and abnormal P300.

A slightly higher index of accuracy and diagnosis of dementia can therefore be obtained by combining these two tests. Unless a patient is so demented he cannot attend in some fashion to the stimulus, the P300 will be abnormal in many types of dementia, but does not differentiate specific types of dementia, nor, at this point, does it seem able to measure the severity of the specific case. However it has been shown to be reversible into the normal range when a treatable dementia of metabolic etiology is effectively corrected.

The simple oddball stimulus paradigm lends itself to testing a broad range of patients. Refinement of other cognitive late-evoked potentials may allow further discrimination of component cognitive functions.

The P300 has been evaluated in impaired mentation in a number of other disorders. Included are Parkinson's disease and renal failure showing an abnormally prolonged latency consistent with dementia; chronic alcohol abuse shows normal latency but decreased amplitude, suggesting the presence of sensory-filtering deficits. Although an inadequate number of subjects were used, an attempt with the P300 to evaluate a putative treatment of DAT has been tried.[4]

When dementia of moderate or severe degree is present, it is easily established by the clinical examination and the more routine tests. In these instances, though the P300 may be abnormal, it may be of little clinical usefulness. On the other hand, in early dementia, especially that of DAT before obvious memory loss or disorientation occurs, the clinical symptoms are not so well established and can include anxiety, depression, restlessness, sleep disorders, etc., all suggesting psychological dysfunction.[14] It is here that the P300 has its most promising potential.

Psychiatric Disorders. Although there are isolated opinions to the contrary, a major clinical problem exists at times in the differentiation of depression from dementia.[2,14,15] While in some instances the obviously demented patient with casual indifference, garrulousness, or "Witzelsucht" can be separated from one with depression, as interest in DAT has grown there is awareness that the early symptoms can include a real depression out of some self-perception of mild cognitive decline.[14] Conversely, the depressed patient may cause confusion because of complaints of memory loss and the exhibition of performance deficits secondary to psychomotor retardation. This differential is not always clarified by the neurologic exam, psychiatric interview, or neuropsychological testing.

The questionable "therapeutic trial" of antidepressants is also a less than satisfactory routine alternative to making the diagnosis. An independent objective measurement such as the P300 can often clarify the issue. It has been shown to have consistently normal latencies in depression and schizophrenia.[2,3,14,18]

Summary

Any new test with potential clinical applications must be assessed in light of both its disadvantages as well as its shortcomings. The P300 test is not without problems. It is subject to patient artifact as well as averaging errors. Universal standardized norms are not available, because the stimulus paradigms may vary in different labs. Also, not everyone measures the wave in the same fashion. In some cases, the P300 may have a very broad and irregular wave form, and the exact latency determination becomes difficult or impossible.

The P300 requires participation at some level by the patient; however, this points out that cognition is an active process. The neural generators remain unknown, making potential for treating a "site" of abnormality in certain disorders such as DAT impossible. This may be a hidden benefit.

The simplistic approach of a finding an abnormal "site" and then trying to treat it may not be the best approach, since even if a specific neural generator might be found it could present normal neural tissue being used by the brain in an abnormal fashion. This overall caution is significant when dealing with abnormalities of mind-brain interaction, emphasizing that cognition is a complex process.

However, simply because the neural generators are not known does not mean the P300 cannot be used. The P300 is one of the first links we have to quantify a relationship between brain structure and the behavioral assessment of a patient's cognitive function. It is non-invasive, with a reasonable cost-benefit ratio. It adds totally new information of brain function not otherwise assessed and is clinically useful to diagnose dementia and especially to differentiate it from depression.

Many of the drawbacks are solvable. The advantages as well as hope for future refinement to assess multiple levels of cognition (previously elusive entities such as language and memory) make it a most promising tool. It is essential, in assessing any potential treatment of DAT, that we have some technique to establish early diagnosis as well as to quantify and document the effect of a treatment that might halt or reverse the process. The P300 may come very close to filling this role.

REFERENCES

1. Arthur DL, Starr A: Task-related late positive component of the auditory event-related potential in monkeys resembles P300 in humans. *Science* 223:186-188, 1984.
2. Brown WS, Marsh JT, LaRue A: Event-related potentials in psychiatry: Differentiating depression and dementia in the elderly. *Bulletin Los Angeles Neurological Society* 47:91-107, 1982.
3. Brown WS, Marsh JT, LaRue A: Exponential electrophysiological aging: P300 latency. *Electroencephalography and Clinical Neurophysiology* 55:277-285, 1983.
4. Canter NL, Hallett M, Growdon JH: Lecithin does not affect EEG spectral analysis or P300 in Alzheimer's disease. *Neurology* (NY) 32:1260-1266, 1982.
5. Ford JM, Duncan-Johnson CC, Pfefferbaum A, Kopell BS: Expectancy for events in old age: stimulus sequence effects on P300 and reaction time. *J. Gerontol.* 37:696-704, 1982.
6. Ford JM, Mohs RC, Pfefferbaum A, Kopell BS: On the utility of P3 latency and RT for studying cognitive processes. *Progr. Brain Research* 54:661-667, 1980.
7. Goddin DS, Squires KC, Starr A: Long latency event-related components of the auditory evoked potential in dementia. *Brain* 101:635-648, 1978.
8. Halgren E, Squires NK, Wilson CL, Rohrbaugh JW, Babb TL, Crandall PA: Endogenous potentials generated in the human hippocampal formation and amygdala by infrequent events. *Science* 210:803-805, 1980.
9. Halgren E, Squires NK, Wilson CL, Crandall PA: Brain generators of evoked potentials: the



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late (endogenous) components. *Bulletin of Los Angeles Neurological Society* 47:108-123, 1982.
10. Hansch E, Syndulko K, Cohen S, et al.: Cognition in Parkinson's disease: An event-related potential perspective. *Annals of Neurology* 11:599-607, 1982.
11. Hillyard SA, Kutas M: Electrophysiology of cognitive processing. *Ann. Rev. Psychol.* 34:33-61, 1983.
12. Horst RL, Johnson R, Donchin E: Event-related brain potentials and subjective probability in a learning task. *Memory and Cognition* 8(5):476-488, 1980.
13. McCarthy G, Donchin E: A metric for thought: A comparison of P300 latency and reaction time. *Science* 211:77-80, 1981.
14. Patterson JV et al.: Average evoked potentials in dementia. In Reisberg B (ed.): *Alzheimer's Disease, The Standard Reference.* The Free Press, 1983.
15. Pedley TA, Miller JA: Clinical neurophysiology of aging and dementia. In Maylux & Rosen (eds.): *Advances in Neurology Vol. 38,* Raven, 1983.
16. Parjesz B, Begleiter H, Samuelly I: Cognitive deficits in chronic alcoholics and elderly subjects assessed by evoked brain potentials. *Acta Psychiatr. Scand.* (suppl.) 286, 1980.
17. Roth WT, Pfefferbaum A, et al.: Auditory event-related potentials in schizophrenia and depression. *Psychiatry Research* 4:199-212, 1981.
18. Roth WT, Pfefferbaum A, Horwath TB, et al.: P3 reduction in auditory evoked potentials of schizophrenics. *Electroencephalography and Clinical Neurophysiology* 49:497-505, 1980.
19. Squires KC, Chippendale TJ, Wrege KS, Goodin DS, Starr A: Electrophysiological assessment of mental function in aging and dementia. In *Aging in the 1980s: Psychological Issues* Poon LW (ed.), Washington D.C.; American Psychological Association 125-134, 1980.
20. Syndulko K, Cohen SN, Tourtellotte WW, Potvin A: Endogenous event-related potentials: Prospective applications in neuropsychology and behavioral neurology. *Bulletin Los Angeles Neurological Society* 47:124-140, 1982.
21. Syndulko K, Hansch E, Cohen SN, Pearce JW, et al.: Long latency event-related potentials in normal aging and dementia. In Courjon J, Mangurere F (eds.), *Clinical Applications of Evoked Potentials in Neurology,* Raven, 1982.
22. Wilder MB, Farley GR, Starr A: Endogenous late positive component of the evoked potential in cats corresponding to P300 in humans. *Science* 211:605-607, 1981.

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Cerebrotendinous Xanthomatosis in Hawaii—
A Therapeutic Failure

Robert C. Hinman, M.D., Honolulu

• *Cerebrotendinous xanthomatosis (CTX) is a rare inherited lipid storage disease that was first described by Van Bogaert et al.[1] The mode of inheritance is most likely autosomal recessive. Its onset is usually in the second or third decade of life. The earliest documented onset was 18 months of age. Since its discovery in 1937, only 55 cases were defined in the next 45 years. Recently, a highly isolated and inbred population has been defined in the Moroccan Jewish community. The prevalence rate of CTX is 1/70,000 in this population but far less than that in the general population.[2]*

Cerebrotendinous xanthomatosis (CTX) is clinically characterized by xanthomas of tendon, premature cataract, progressive cerebellar ataxia, corticospinal tract dysfunction, dementia, and peripheral neuropathy (see Table 1).

The inherited biochemical abnormality appears to be related to defective biosynthesis of bile acids.[3] Since large amounts of bile alcohols were detected in the bile and feces of CTX patients,[4] the decreased production of bile acids has been attributed to the impaired oxidation of cholesterol side chains, although the site of the enzymatic defect(s) remains controversial. Evidence of reduced mitochondrial 26-hydroxylase has been presented.[5,6] It is likely that consequently bile acid formation via the 26-hydroxylation pathway is blocked, so that now the 25-hydroxylation pathway becomes prominent. As the latter pathway is less easy (metabolically) to follow, abnormal precursor metabolites and by-products (bile alcohols) are produced. However, the assumption that CTX is only caused by 26-hydroxylase deficiency does not explain all the observed experimental data. Thus, cogent evidence has been presented that CTX could be due to 24S-hydroxylase deficiency.[7,8] Recently cultured fibroblasts from a patient with CTX have been shown to accumulate cholestanol. Thus, the defect in sterol metabolism has only partially been elucidated.[9]

The 24S-hydroxylase deficiency would explain (Fig. 1) why the use of 55 mgm of chenodeoxycholic acid per day as a therapeutic regimen would alter the defect by decreasing the conversion of cholesterol to cholestanol.[10] The latter is then reduced to normal levels in the serum with clinical improvement in 3 patients. The feedback mechanism is as yet not understood. However, this normalization of the cholesterol-cholestanol serum level results in bile which is much closer to normal in its constituents,

TABLE 1. Clinical findings in CTX (through 1982)*#

	No. of Patients		
	Documented	Absent	Not Mentioned
TENDON XANTHOMAS			
Achilles	51	4	0
Other (as triceps, extensor tendons of the hands and tibial tuberosities)	16	35	4
NEUROLOGIC DYSFUNCTION			
Motor paresis (with spasticity, brisk reflexes and Babinski responses)	36	8	11
Ataxia	36	8	11
Dysarthria	17	8	30
Dementia	39	6	10
CARDIOVASCULAR DISEASE (MI)	4	23	28
RESPIRATORY INSUFFICIENCY	4	20	31
CATARACTS	35	9	11
SEX RATIO: Female : Male 33 : 22 1.5 : 1			
Elevated serum cholestanol level reported	14	0	41

*Based on 55 cases including the two patients in this report.
#Data gathering often incomplete—especially in regard to the early patients.

Associate Professor of Medicine and Chief, Division of Neurology, John A. Burns School of Medicine, University of Hawaii.

Accepted for publication July 1984.

mobilizes cholestanol from the nervous system, tendons, etc.

After decades of change with the formation of actual xanthoma within the central nervous system and demyelination as seen by CT and NMR or brain, therapy may be too little and too late.[11,12] At autopsy, the patients reveal striking yellow deposits (xanthomas) within the white matter of the cerebellar hemispheres (Fig. 2); these may expand to replace most of the white matter. There may be atrophy of adjacent folia. Microscopic evaluation reveals extensive demyelination of the cerebellar white matter lateral to the dentate nucleus and superior cerebellar peduncles. Many cystic spaces and needle-shaped clefts are

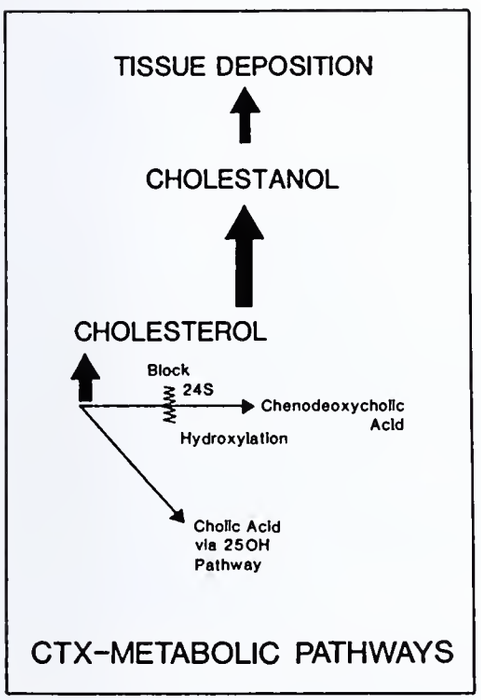


Fig. 1. Putative pathway for the liver-dependent defect in CTX metabolism.

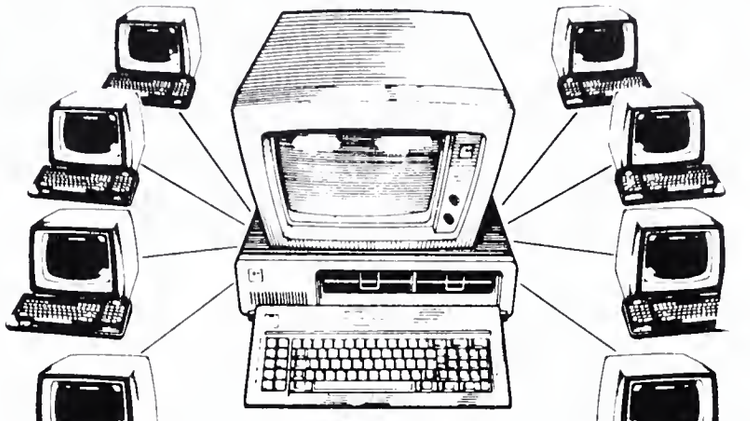
present in these areas of demyelination. Macrophages and multi-nucleated giant cells may surround these clefts and cysts. Xanthomas may also be observed in the cerebral peduncles and globus pallidus. The cerebral cortex is virtually free of changes despite the dementia though there may be dense gliosis in the corona radiata. Gliosis and demyelination may be scattered throughout the brainstem. In the spinal cord there may be extensive demyelination in the posterior and lateral columns.

Methods

Recently we have had the opportunity to study 2 Japanese-Americans with CTX. They are Okinawan by ancestry and represent 2 out of a total of 7 Japanese described in the literature with CTX. The others are from the main Japanese home islands. The vast majority of patients are white (42), Orientals (7), with blacks (3), and Metis (3) making up the remainder.[2]

In the family reported here, there is no

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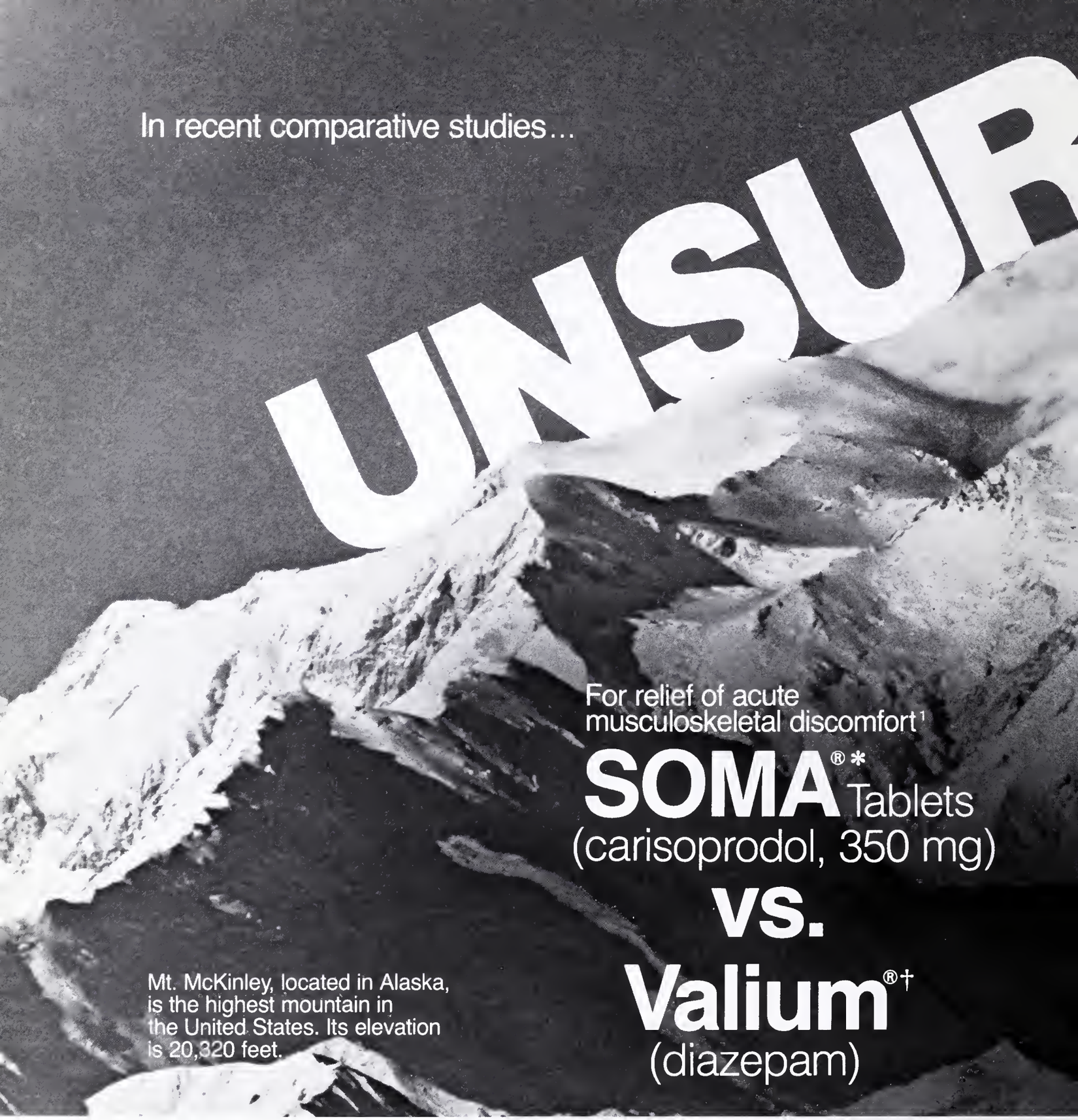
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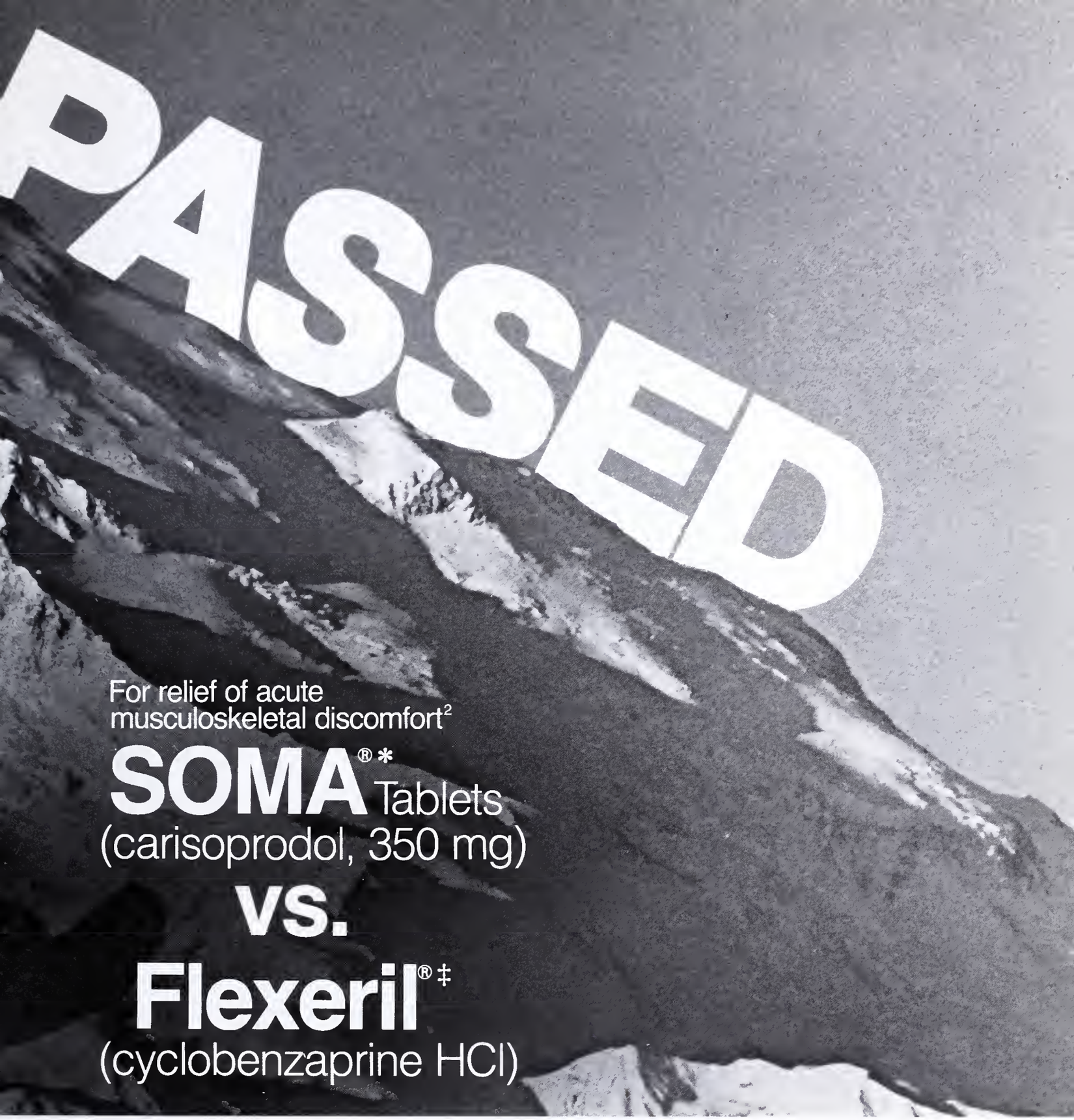
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suggestion of consanguinity. The other 4 siblings this family have been examined without evidence of the disease being found. As a brother and sister, they stand apart from their siblings because of a cachetic habitus and much darker cutaneous pigmentation (Table 2).

The remainder of their usual metabolic assessment (CBC, urinalysis, etc.) has been normal.

The knowledge of chenodeoxycholic acid effects on bile acid formation suggested that this therapy should be tried on these 2 patients with their informed consent.

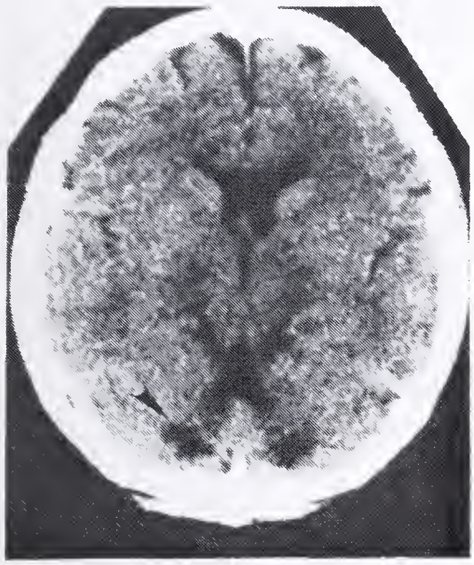


Fig. 2. The arrow pointing to the hypodense area in the cerebellum most likely represents a xanthoma (actually present bilaterally).

Results

Soon thereafter and for the following 2 years, the therapy with chenodeoxycholic acid returned the cholestanol level to normal (P.C.: 0.4 mg/dl and A.C.: 0.3 mg/dl) but had no effect on their CNS problems or other abnormal studies, such as the nerve conduction velocities, visual evoked responses, intellectual functioning (as determined by the Luria-Nebraska Neuropsychological Battery).

Discussion

It may well be that our failure after 2 years of therapy with chenodeoxycholic reflects how much of these substances, cholesterol, cholestanol, and others, must be mobilized, as well as the complex nature of healing the diffuse demyelination this late in an individual patient's life.

In this respect, a parallel can be drawn with phenylketonuria (PKU). Uncovering the CTX patient as early as possible will prevent the primary deposition of cholesterol, cholestanol, etc. within the CNS and all the secondary pathological changes that are thereby induced. However, despite the ability to detect the presence of CTX via analyses of urine, stool,



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TABLE 2. Present probands

	P.C. (M)	A.C. (F)
B.D.	4-25-50	1-3-47
Ht. (cm)	63	47
Wt.(kgm)	57.2	38
Age at onset	"Teens"	"Twenties"
Cortico-spinal tract dysfunction	Severe	Mild
Cerebellar ataxia	Severe	Mild
I.Q.	92	104
Tendon xanthomas		
Achilles	Positive	Positive
Elsewhere	Negative	Right middle finger extensor tendon xanthoma
Cataracts	Negative	Negative
Serum cholesterol level mg/dl	190	211
Serum cholestanol level mg/dl	*4.9	*3.7
Bile composition	Decreased bile acids and increased bile alcohols	Not evaluated
Pulmonary function evaluation	Normal	Normal
Nerve conduction velocities	Slight slowing	Normal
Visual evoked response: [Pattern reversal C-2 wave form latency (VER)]	Prolonged	Prolonged
Brainstem auditory evoked response (BAER)	Normal	Normal
Brain computerized axial tomography	Abnormal with cerebellar hypodensities (see Figure)	Normal
EEG	Bitemporal theta slow wave Inappropriate to age or state of arousal	Same
Chenodeoxycholic acid dose (p.o.)	250 mg b.i.d.	250 mg b.i.d.

*Normal cholestanol level: 0.1 to 0.6 mg/dl.

and blood, we remain quite uncertain as to what population to apply these screening procedures to other than Sephardim of Moroccan origin.[2]

In the meantime, because of the possibility of success in the future in our 2 patients, we will continue for 3 more years with this regimen. Recently, mevinolin, an inhibitor of hydroxymethylglutaryl coenzyme A reductase, has been demonstrated to lower cholestanol levels more rapidly and profoundly than does chenodeoxycholic acid (6.25 mg bid).[14] This may replace the present therapy if it can be shown to be safe and more effective in reversing the clinical condition of CTX. As mevinolin does not return the bile composition to normal, one must remain suspicious of its final efficacy, especially in view of the gaps in our knowledge about sterol metabolism at the cellular level.

ACKNOWLEDGEMENTS

I would like to thank Gerald Salen, M.D., for his help in performing the bile analysis and serum cholestanol levels. He has informally served as the world data repository for gathering and storing information on the patients with CTX. This is most helpful to the physician working with patients with CTX.

A complete bibliography of all cases of CTX is available on request.

REFERENCES

1. Van Bogaert L, et al.: Une forme cerebrale de la cholesterinose generalisee. Mason et Cie, Paris, 1937.
2. Berginer VM, Abeliovich D: Genetics of cerebrotendinous xanthomatosis (CTX): An autosomal recessive trait with high gene frequency in the sephardim of Moroccan origin. *Amer. J. Med. Gen.* 10:151, 1981.
3. Salen G, Grundy SM: The metabolism of cholestanol, cholesterol and bile acids in cerebrotendinous xanthomatosis. *J. Clin. Invest.* 52:2822, 1973.
4. Setoguchi T, Salen G, Tint GS, Nosbach EH: A A biochemical abnormality in cerebrotendinous xanthomatosis. Impairment of bile acid biosynthesis associated with incomplete degradation of the cholesterol side chain. *J. Clin. Invest.* 53:1393-1401, 1974.
5. Oftebro H, Bjorkhem I, Skrede S, Schreiner A, Pederson JI: Cerebrotendinous xanthomatosis. A defect in mitochondrial 26-hydroxylation required for normal biosynthesis of cholic acid. *J. Clin. Invest.* 65:1418-1430, 1980.
6. Javitt NB, Kok E, Cohen B, Burstein S: Cerebrotendinous xanthomatosis: Reduced serum 26-hydroxycholesterol. *J. Lipid. Res.* 23:627-630, 1982.
7. Salen G, Shefer S, Setogushi T, Mosbach EH: Bile alcohol metabolism in man. Conversion of 5beta-cholestane-3alpha, 7alpha, 12alpha, 25-tetrol to cholic acid. *J. Clin. Invest.* 56:226-231, 1975.
8. Shefer S, Cheng FW, Dayal B, Hauser S, Tint GS, Salen G, Mosbach EH: A 25-hydroxylation pathway of cholic acid bio-synthesis in man and rat. *J. Clin. Invest.* 57:897-903, 1976.
9. Barron JL, Maxwell JU, Rutherford GS: Cerebrotendinous xanthomatosis: A defect in cellular sterol biosynthetic control. *J. Inher. Metab. Dis.* 5:91-93, 1982.
10. Salen G: Personal communication.
11. Berginer VM, Berginer J, Salen G, Shefer S, Zimmerman RD: Computed tomography in cerebrotendinous xanthomatosis. *Neurol.* 31(11):1463-1465, 1981.
12. Swanson W: Personal communication.
13. Jervis GA: Degenerative encephalopathy of childhood. *J. Neuropath. Exp. Neurol.* 16:308, 1957.
14. Lewis B, Mitchell WD, Marenah CB, Cortese C, Reynolds EH, Shakir R: Cerebrotendinous xanthomatosis: Biochemical response to inhibition of cholesterol synthesis. *Brit. Med. J. (Clin. Res.)* 287:21-22, 1983.

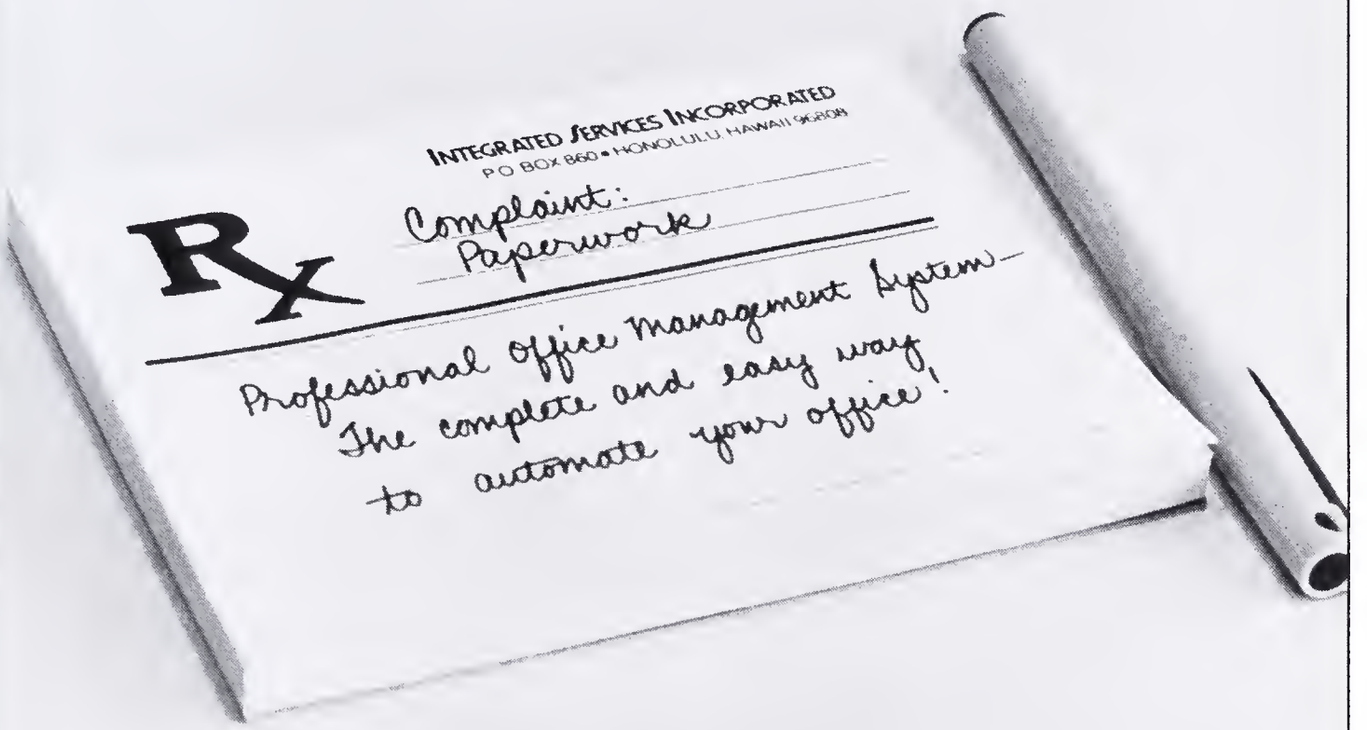
Late Acknowledgement

For the report, "Early Experience with Intravenous Streptokinase in the Treatment of Acute Myocardial Infarction," HAWAII MEDICAL JOURNAL, November 1984, pp. 394-396, the following acknowledgement is made:

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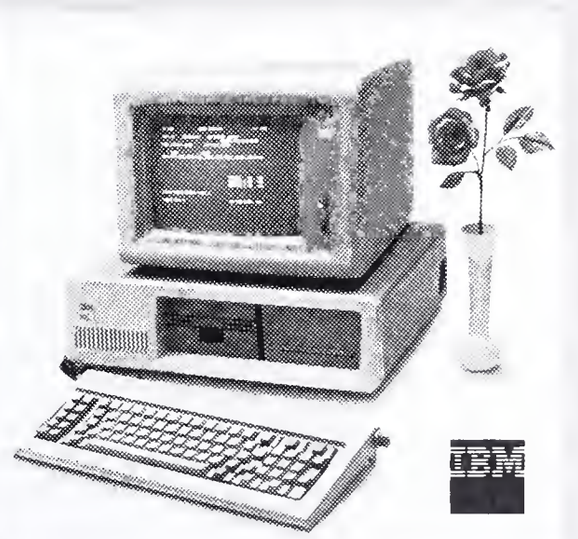
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Liquid Crystal Contact Thermography in the Clinical Evaluation of Traumatic Low Back Pain

Kenneth K. Nakano, M.D., MPH, ScM, FRCP(Can), FAANAOS-C, Honolulu.

• *Liquid crystal thermography (LCT) appears clinically useful as an imaging modality in the clinical evaluation of referred pain. In the assessment of patients with traumatic low back pain (LBP), there exists a good correlation with clinical symptoms, neurological examination, electromyography (EMG), computerized tomography (CT scan), metrizamide myelography, and LCT. Among 43 patients with traumatic LBP at the Straub Clinic in Honolulu, LCT documented specific abnormalities with subsequent confirmation utilizing CT scan, myelography, and surgery. This study indicates that LCT represents a reliable, non-invasive, and painless physiological imaging procedure in patients with symptomatic traumatic low back pain.*

Thermography embodies the pictorial representation of a range of temperature variations of a scanned area.[1-3] Additionally, thermography can detect and graphically demonstrate irritation of, or damage to, sensory nerve fibers.[2,3] Initial clinical medical utilization of thermography included the detection of breast cancer.[4-6] Other investigators employed thermography in cerebral vascular insufficiency,[7] arthritis,[8] and orthopedic problems.[9,10]

Recent studies report additional clinical applications for thermography and include:

1. The diagnosis of spinal nerve root syndromes.[11,12]
2. Selecting patients who require myelography.[12]
3. Evaluation of patients with negative or questionable myelograms who continue to complain of radicular symptoms.[11,12]
4. Documenting pain in musculoligamentous injuries.[9,10]
5. Inflammatory, infectious, and neoplastic disease of the spine and limbs.[8-10]
6. Selected arthropathies.[13]
7. As an aid in cases of thrombophlebitis of the legs.[14]
8. In the assessment of arterial insufficiency of the limbs.[15]
9. In selected peripheral entrapment neuropathies.[16]

The current paper will describe the clinical application and reliability of LCT in patients sustaining traumatic LBP and evaluated at the Straub Clinic. It should be stressed at the beginning that the facts depicted by LCT become meaningful only as an integral part of the general clinical and neurological picture.

Methods

The Flexi-Therm® Mark II LCT system unit possesses liquid crystals embedded in elastometric rubberized sheets mounted on a transparent plexiglass box. The liquid crystal "air pillows"can be closely contoured to various body surfaces.[17] With body contact an image appears on the box, representing the heat pattern in that area. High resolution instant color photography records the images generated.

Eight thermographic boxes, progressively numbered 24 to 33 (corresponding with the median Celsius temperature ranges of their incorporated liquid crystal Flexi-Therm® sheets), served to record the thermographic findings in this patient population. The lowest temperature displayed a dark brown color while the highest temperature yielded a dark blue shade (progressive temperature elevation from dark brown to tan, reddish brown, yellow, green, light blue, and dark blue). A fixed distance frame attached to an instant Polaroid® color camera provided support for the thermographic boxes and facilitated photography.

All the patients undergoing LCT in this study disrobed and waited 20 minutes in an air-conditioned room used only for thermography. The patients with traumatic LBP seen at Straub Clinic served as the study population. Prior to the thermographic examination, every patient completed a questionnaire and underwent neurological examination. One examiner utilized the thermographic air pillow with the widest display for the patient's skin temperature. Furthermore,

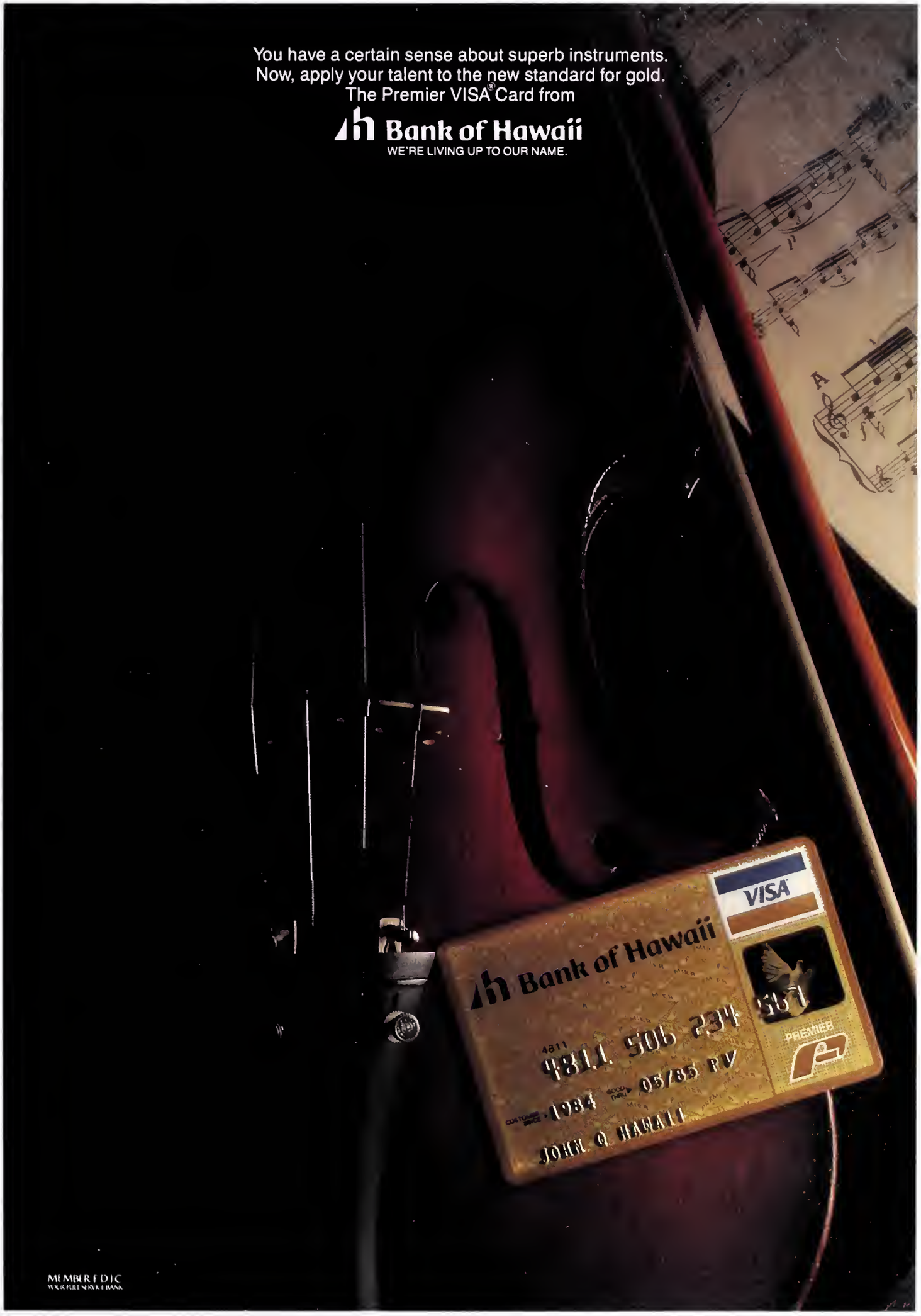
TABLE 1. Clinical characteristics of patients with LBP

Patients with abnormal LCT			Study population profile
Age group	Men	Women	Total number in study: 109
<20	—	1	Age range: 15 to 73 years
21-30	4	1	Sex ratio: 61 men
31-40	10	7	48 women
41-50	6	3	
51-60	2	4	Percent of total study
61-70	3	—	population with abnormal
>71	1	1	studies = 39.4% (43 cases)
TOTAL	26	17	

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ScM = Master's degree in science, epidemiology, Harvard; FAANAOS-C = Fellow, American Academy of Neurologic and Orthopedic Surgery, certified.

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the examiner firmly pressed the appropriate temperature box against the patient's posterior lumbar region, buttocks (posterior and posterior-lateral views), thigh (posterior, anterior, and lateral aspects), legs (anterior, posterior, and lateral aspects), and feet (dorsal and plantar views). After colored images appeared on the liquid crystal sheets, color photographs recorded the findings. Each study was repeated 3 separate times in succession at 20-minute intervals over the course of 1 hour to assure consistent thermographic images and findings.

A normal thermogram of the lumbosacral area and lower limbs reveals symmetric heat emission patterns. Spinal nerve root lesions will demonstrate temperature changes in the corresponding dermatomes. On the other hand, vascular and inflammatory disorders show a focal, non-neuroanatomic heat emission distribution.

Patient Population

The patient population in this study consisting of 109 patients (61 men and 48 women), age range 15-73 years, with traumatic low back pain (motor vehicle, athletics, work- and home-related injuries), underwent LCT as noted by the protocol specified under Methods. This study excluded patients with known diabetes, arthritis, sepsis, malignancies, peripheral vascular disease, drug/substance abuse (including cigarettes, medications, or alcohol), as well as neurological disease (neuropathies, multiple sclerosis, dystrophies, etc.). Questionnaires prior to neurological examinations and LCT recorded the patients' symptoms, duration, accident information, medications, therapies, habits, prior injuries, and operations.

Electrodiagnostic studies i.e., electromyography-nerve condition velocities (EMG-NCVs), CT scan of the lumbar spine, and myelography were performed after the LCT in the above study population. Study bias did not appear to be a problem, as the radiologists, neuroradiologist, and the referring physicians assessed the clinical findings of the LBP patient without knowing the results of LCT.

Results

Among the 109 traumatic LBP study population undergoing LCT, 43 patients (39.4%) revealed abnormal thermographic studies (Table 1). Both the youngest patient (a 15-year-old girl) and the oldest patients (72 years of age, a man and woman) developed LBP after motor vehicle-related accidents. The work-related LBP injuries were clustered in the age groups 31-40 and 41-50, men being predominantly involved. The 66 patients with normal LCT did not require surgical intervention or invasive neurodiagnostic studies. Furthermore, the patients with normal LCT had fewer physician visits and less medical therapy than had those with abnormal LCT studies.

TABLE 2. Comparison of LCT and EMG

		EMG	
		Positive	Negative
LCT	Positive	38	3
	Negative	1	1

TABLE 3. Comparison of LCT and CT scan

		CT Scan	
		Positive	Negative
LCT	Positive	38	2
	Negative	2	1

TABLE 4. Comparison of LCT with myelogram

		Myelogram	
		Positive	Negative
LCT	Positive	39	3
	Negative	1	—

There existed good correlation between LCT and EMG (Table 2), CT scan (Table 3), and myelography (Table 4). Of the 43 patients with abnormal LCT, 40 patients demonstrated disc protrusions (24 with levels at L4-5, 15 with levels at L5-S1, and 1 with a L3-4 level) and corresponding radiculopathy. Additionally, 2 patients showed a facet syndrome and only 1 patient suffered from a high degree spondylolisthesis at L5-S1.

Nine patients agreed to low back surgery and 2 patients preferred chymopapain injection of their disc. Among the 9 patients undergoing surgery, 8 experienced relief of their back and radicular symptoms. Chymopapain injection provided relief in a woman with a disc; however, a man given chymopapain injection for his disc protrusion reported relief of his radicular pain but only partial relief of his low back pain. Both patients with facet syndromes experienced satisfactory pain relief after anti-inflammatory medication and injection into the facet of a combination of local steroids and anesthetic agents. The patient with spondylolisthesis continued to experience LBP with activity while anti-inflammatory and analgesic medications provided only mild relief of his pain.

Discussion

LCT appears a useful, painless, noninvasive technique of imaging referred pain. It records body temperature changes resulting from irritation of the sinuvertebral nerve (recurrent branch of each spinal nerve) as well as other sensory nerve dysfunctions.[18] LCT can be utilized in the diagnosis of nerve root compressions, especially when simultaneous study of the limb dermatomes accompanies evaluation of the spine.[11,12,19,20]

The current study also supports LCT as an accurate and painless modality in the assessment of patients with traumatic LBP who possess lumbar root compression and facet syndromes. In addition, LCT will be a sensitive and noninvasive imaging medical procedure with certain advantages: (1) accuracy which correlates with CT scan, EMG, and myelography; (2) easy use in small hospitals and the physician's office; (3) no radiation exposure; and (4) a graphic evaluation of autonomic nerve fiber irritation in a harmless and painless manner. Although there exists no direct correlation between organic pain and an LCT pattern, pain mediates through sensory fibers and LCT measures autonomic sympathetic activity. The frequent correlation of sensory and autonomic phenomena supports the clinical analysis.

Thermography represents a physiological measurement of autonomic nerve function and would be analogous to EMG, which measures motor nerve and muscle activity. CT scan and myelography, on the other hand, measure anatomical structure. In the evaluation of patients with LBP, the clinician often requires an objective physiological imaging technique to document the subjective complaint of pain. Anatomical information obtained by CT and myelography will complement the physiological measures from both LCT and EMG.

In patients with traumatic LBP, LCT appears indicated in the following clinical situations: (1) for selecting patients who require myelograms; (2) in assessing traumatic LBP with negative or equivocal myelograms; (3) as a complementary procedure to CT and myelography to determine which abnormalities are clinically relevant; (4) in documenting lumber nerve root compression from discs and spinal stenosis; and (5) for evaluating nerve irritation from facet syndromes. Additionally, LCT becomes abnormal in inflammatory, infectious, and neoplastic diseases of the lumbar spine and legs. Inflammatory, vascular, and neoplastic disorders can be distinugished on LCT since they possess a specific localized heat emission pattern while lumbar root disorders follow a dermatome or neuroanatomic pattern.

Since many back problems will be work-related, a potential use for LCT would be in pre-employment examinations.[21] Those persons engaging in strenuous occupations may be screened prior to employment. A baseline LCT study would prove useful in event of injury on the job.

Thermography often demonstrates

subjective pain patterns and documents the separation of somatic complaints from malingering. Often, physicians send the patient with LPB to psychiatrists for treatment. Many patients with LBP, and especially those with traumatic LBP, possess non-psychological causes of their pain. Frequently, it becomes easier to send a patient for psychological evaluation than to honestly admit . . . "I do not know why you have back pain . . . nor do I understand what is causing your pain." In this situation, wouldn't the physiological, painless imaging process of LCT assist in the care of the individual?

REFERENCES

1. Uematsu S, Long D: Thermography in Chronic Pain. Medical Thermography. Theory and Clinical Applications. Los Angeles: Brentwood Publishing Co., p. 52-67, 1976.
2. Wexler CE: An Overview of Liquid Crystal and Electronic Lumbar Thoracic and Cervical Thermography. Tarzana, Calif.: TSI 1983.
3. Lawson R: Implications of surface temperatures in diagnosis of breast cancer. *Can. Med. Assoc J.* 75:309-310, 1956.
4. Lloyd-Williams K, Williams FJL, Handley RS: Infra-red thermometry in diagnosis of breast disease. *Lancet* 2:1378-1381, 1961.
5. Wallace JD, Goldman A, Dobb G, et al.: Rapid scanning thermography in suspect breast evaluation. *Radiology* 84:132, 1965.
6. Gershon-Cohen J, Berger SM, Haberman JD, et al.: Thermography of breast. *Am. J. Roent. Rad. Ther. Nuc. Med.* 91:191-926, 1964.
7. Wood EH: Thermography in diagnosis of cerebrovascular disease. *Radiology* 85:270-283, 1965.
8. Cosh JA: Techniques of heat detection used in assessment of rheumatic disease. *J de rakil d'electro et de med nucleaire* 48:84089, 1966.
9. Albert SM, Glickman M, Kallish M: Thermography in orthopedics. *Ann. N.Y. Acad.* 121:157-170, 1964.
10. Goldbert HI, Heinz ER, Taveras JM: Thermography in neurological patients. *Acta Radiol.* 5:786-795, 1966.
11. Pochaczevsky R, Wexler CE, Meyers PH, et al.: Liquid crystal thermography of the spine and extremities — its value in the diagnosis of spinal root syndromes. *J. Neurosurg.* 56:386-395, 1982.
12. Pochaczevsky R: Assessment of back pain by contact thermography of the extremity dermatomes. *Ortho. Rev.* 12:45-58, 1983.
13. Agarwal A, Lloyd KN, Dovey P: Thermography of the spine and sacroiliac joint in spindylitis. *Rheumatol. Phys. Med.* 10:349-355, 1970.
14. Pochaczevsky R, Pillari G, Feldman F: Diagnosis of deep vein thrombosis by liquid crystal contact thermography. *AJR* 138:717-723, 1982.
15. Wallace JD: Thermography in ischemia. *Rad. Clinics NA*, 5:505-513, 1967.
16. Nakano KK: Liquid crystal contact thermography (LCT) in the evaluation of patients with upper limb entrapment neuropathies. *Neurol. Orthop. J. Med. Surg.* 5:97-102, 1984.
17. Wexler CE: Atlas of Thermographic Lumbar Patterns Tarzana, Calif.: TSI, 1983.
18. Wall PD, Devor M: Sensory afferent impulses originate from dorsal root ganglia as well as from the periphery in normal and nerve injured rats. *Pain* 17:321-339, 1983.
19. Edeiken J, Wallace JD, Curley RF, et al.: Thermography and herniated lumbar discs. *AJR* 102:790-796, 1968.
20. Raskin MM, Martinez-Lopez M, Sheldon JJ: Lumbar thermography in discogenic disease. *Neuroradiology* 119:149-152, 1976.
21. Karpman H, Knebel A, Semel CJ, et al.: Clinical studies — application of thermography in evaluating musculo-ligamentous injuries of the spine — a preliminary report. *Arch. Environ. Health* 20:412-417, 1970.



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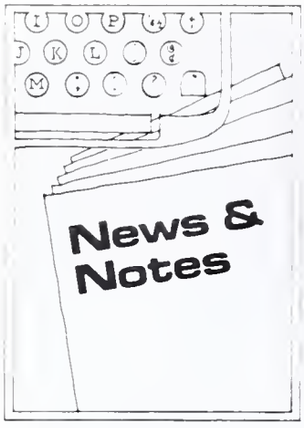
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Hors De Combat

Hilo physician **Manas Ghosh** was playing tennis at the Edith Kanaka'ole Tennis Stadium in 1982 when he fell and broke his left arm. Manas claimed the county negligent in maintaining the courts and was willing to settle for a $7,500 pittance which the county council unwisely rejected over the corporation counsel's recommendation. Now Manas is suing Hawaii County for $250,000 in damages ($150,000 in general damages and $100,000 in punitive damages) . . .

Plastic Surgeon **Gunther Hintz** "took a break from his Kahala plastic surgery practice for 3 weeks to help crippled children and instruct local doctors in the African nations of Nigeria, Togo, and Kenya" (Don Chapman's column) . . .

Kailua surgeon **Kazushi Tanaka** is a "hibakusha" (i.e., an atomic bomb survivor). Kazushi was 14 and a 9th grader that fateful August 6, 1945. He was riding a bicycle to his factory job when he looked up and actually saw the parachute with the bomb coming down. "I was about 1.8 miles from the center, but was quite lucky. A few seconds before the explosion I took a shortcut down a narrow street between rows of 2-story buildings, so I didn't have a real direct exposure to the explosion. For just 1 second, it was like millions of thunderbolts together, and then I was buried in bricks and debris. I heard nothing. I felt no heat. I dug my way out. I couldn't see anything . . . it was so dark, black . . ." Kazushi crawled out and reached his home in the suburbs. His younger sister was totally burned and died 2 days later. That was 40 years ago. Now Kazushi is a member of the Physicians for Social Responsibility, but does not participate actively. "I just peacefully protest the existence and continued development of nuclear weapons."

When interviewed by A.A. Smyser, Albert Yuen, retiring president and chief operating officer of HMSA, had 6 solutions for the health of Hawaii's people. First, he would work with children to help them develop more respect and responsibility for their personal health. Second, he would train mothers in good health practices. Third, he would get all mature adults involved in activities that engage both their bodies and their minds. Fourth, he would involve retired people in using their talents and knowledge to help others. Fifth, he would seek better care and involvement for people with chronic illnesses. Finally, he would provide more hospice care and support, home care preferably, for the terminally ill. "See?" he said rather proudly, "I haven't mentioned doctors or hospitals at all."

Miscellany

Jesus was playing golf with Moses (that white-haired, long-bearded prophet) on one of Heaven's beautiful golf courses. Moses drove a 300-yarder with a slight hook which landed smack behind a large oak. Jesus hit a 350-yarder which sliced onto a deep pond, but the ball floated on the surface. Jesus walked on the water, reached his ball, took his 5 iron, and hit a shot which landed 1 foot from the pin. Moses surveyed the impossible shot, mumbled a prayer, and a pure white dove flew down from up above, picked up his ball, and dropped it into the hole. Jesus complained, "Awww, Dad. Play fair!" (As related by **Bill Dang**).

. . ."Why is a driver like a baseball player?" . . . "They both want to get home safely." (Joe Moore on KHON-TV 2)

Sportsmen

Ralph Hale was elected president of U.S. Water Polo, Inc., the sport's governing body in America . . .

Jack Scaff Jr., Honolulu Marathon Clinic director, writes: "Jogging with musical headphones, though interesting, unfortunately provides a dangerous disservice to runners via their distraction. As you know, several states have banned the use of headphones for joggers and bicyclists, and for good reason. Very simply put, we need our eyes to see and our ears to hear when we're on the street . . ."

Back in May, **Duncan MacDonald,** Kailua anesthesiologist, was running the 26.2-mile marathon faster than he ever had, but he knew well that he was a long shot to make the U.S. Olympic team. Duncan, a former Kailua High track star and 3-time winner of the Honolulu Marathon, made the U.S. team in the 5,000-meter run in the 1976 Games at Montreal, but failed to make the finals because of a tactical blunder. After the games, Duncan ran to an American 5,000-meter record. He was ready for the 1980 Olympics and could have made the team in a breeze, but for the boycott. For the 1984 Olympics, time just ran out for Duncan at age 35 . . .

"Dr. **Jack Scaff,** founder of the Honolulu Marathon, didn't mince words in responding to claims by the American Academy of Pediatrics in the magazine, Running Commentary: 'To state that no one younger than 18 should run as far as a marathon' is very simply a load of crap!" (Don Chapman's column, June 13)

HOMS tennis tournament results: 1st place: **Niall Scully;** 2nd place: **Elizabeth Anderson;** 3rd place: **Ron Peroff;** 4th place: **Ted Tseu** Prizes were donated by the following: Don Porter of Abbey Medical; Steven Iwamura of Winthrop; Gene Machida of Pali Longs; Victor Howe of Long Drugs. Tournament chairman: **Victor Dizon** . . .

HCMS golf tournament: When the dust had finally settled at the Marine Corps Air Base course, **Richard Ho** had won low gross; **Ron Perry** had low net and was the 1985 tournament chairman; 2nd place: **Tommy Chang;** 3rd place: **Dick Ho;** 4th place: **Ed Emura;** 5th place: **Les Vasconcellos;** 6th place: **Masaru Koike;** 7th place: **Bill Dang;** 8th place: **Winfred Chang;** 9th place: **Catalino Cachero;** 10th place: **Leonard Kiehm** . . . Guest flight winners: 1st place: **Dana Ichinotsubo;** 2nd place: **Eric Yamauchi;** 3rd place: **Franklyn Wong** . . . Women's flight winners: 1st place: **Anita Ho;** 2nd place: **Irene Uyehara;** 3rd place: **Ethel Kakimoto** . . . Prizes were donated by: Aloha Airlines; **Albert Chun-Hoon;** Home Care Medical Equipment & Supply; Longs Drugs; Glenn Pang; Bank of Honolulu; **Ray Hatate;** Island Terminte Inc.; Physicians Exchange of Honolulu; Robinson Travel, Inc.; Servco Pacific, Inc.; BioScience Labs; Hawaiian Airlines; **Tom Kobara;** Pacific Oldsmobile; Professional Plaza Lab; and Tel Page. Our thanks to Chairman **Bill Dang** who still shot an creditable game . . .

Baseball: Extracted from coach **Mike Okihiro's** play-by-play description in the KMC medical staff newsletter, titled "The Big One or The Choker."

"On Wednesday evening, June 27, the annual big softball game between the X-ray Rascals and the DJs was again won by the older and wiser physicians. The Rascals put up an unexpectedly strong fight and it took extra innings, but the DJs prevailed, as usual, by the score of 5 to 1. The Rascals got an early run when **Dennis Murakami** couldn't bend over far enough to pick up **Herk Fontes'** grounder. **George Kimata** will be switching from Geritol to testosterone next season. **Dave Sakuda** wore out a path between 3rd base and home plate as he ranted, raved, cajoled, and begged the Rascals to hold on to the lead.

"In the fateful 8th inning, **Gary Miyama** somehow managed to pick up **Mike Okihiro's** hot grounder, but threw the ball 30 feet over the 2nd baseman and into the parking lot to allow **Roland Tam** to score the tying run. In the bottom half of the 9th, their (the Rascals) big boys couldn't handle **Bill Morioka's** baffling screw balls and change ups. In the fateful 10th, singles by **Mike Uechi, Bill Morioka,** and **Mike Catalano** brought in the tie breaker. **Al Furuike** drove in the last run and the cream had risen to the

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top again. **Howard Arimoto** pitched a good game for the Young Rascals. For the DJs, shortstop **Elliot Tomomitsu** and 2nd baseman **Jim Hirasa** stood out on both offense and defense. **Dave Sakuda** was mostly offensive . . ."

Life in These Parts

The Cancer Center of Hawaii has an Omnicon FAS-III Tumor Colony Counter, one of only 20 in the U.S. The $100,000 Bausch & Lomb machine saves time and error in selecting drugs for a particular cancer and was purchased by the Pacific Foundation for Cancer Research, which is soliciting donations for complete financing of the counter. Funds thus far have been generated by the Tosh Kaneshiro Memorial Golf Tournament, the Patty Smith Memorial Fun Run, the Chuck McLauchlin Run, and the Candlelight and Wine Jazz concert.

Noboru Oishi, clinical research director, feels the machine will generate data on the effectiveness of drugs on different ethnic groups and will allow screening of new experimental drugs . . .

The W.K. Kellogg Foundation has given a $277,411 grant to the John Burns School of Medicine for a 3-year project, designed by **Max Botticelli,** to help physicians improve their cost-effectiveness . . .

The Ryukyu University Medical School will send a team of physicians to Honolulu to carry out its 3rd year of health research on Okinawans in Hawaii. Okinawa is known in Japan as a "longevity prefecture" because of the number of elderly living to a ripe age, and the team is trying to determine whether the longevity applies to overseas Okinawans . . .

Since 2 years ago, about 23 cases of AIDS have been reported in Hawaii, and 12 of the victims have died. **Joel Greenspan,** U.S. Public Health Service epidemiologist with the state Department of Health, reports that as of mid-August the number of cases nationwide has reached 5,640, and 2,540 have died. In Hawaii, the patients have been homosexual and bisexual males and intravenous drug users. Haitians and hemophiliacs are not included locally . . .

George Underwood, chief of pulmonary services at Tripler Medical Center, feels that asthma patients may some day benefit from using marijuana because of its bronchodilator effect, but more research has to be done because the psychoactive ingredient THC is also the bronchodilator ingredient . . .

The Pacific Health Research Institute and the University of Hawaii have been awarded a $2.4 million grant to study the treatment of hypertension in older individuals. Honolulu is 1 of 17 research sites chosen and more than 5,000 people will be studied across the country. **Fred Gilbert Jr.,** medical director, feels that the study will show whether or not systolic hypertension should be treated. J. David Curb is co-principal investigator and the research will involve the UH schools of public health and medicine and Tripler, Straub, Kaiser, Kuakini, and St. Francis hospitals. Other investigators are **Stephen Arnold** (Straub); **Lee Jacobs** (Kaiser); **Martin Leftik** (Tripler); **Katsuhiko Yano** (Kuakini); **Helen Petrovitch** (School of Medicine); and **Sue Anderson** (St. Francis RN) . . .

Dexter Seto, professor of pediatrics at John Burns School of Medicine, feels that pregnant women with genital herpes have more miscarriages and premature births. Dexter will be involved in a screening project to test pregnant women for herpes at Kapiolani. The screening is done at 32 weeks of pregnancy and repeated during the 34th and 36th week and every week thereafter until delivery. If the tests show the virus is active near time of delivery, C-section is advised to prevent spreading the herpes to the newborn . . .

Dexter is also director of research at Kapiolani and is involved in local SIDS (Sudden Infant Death Syndrome) research with Thomas Burch of the state Department of Health; Ken Forbes, research associate; Yoshitsugi Hokama, professor of pathology; and Herbert Uemura, associate director of laboratories at Kapiolani. In Hawaii the SIDS rate is 1.06 per 1,000 live births (lower than national average); 72% died when they were 1 to 3 months old and the rate is highest among part-Hawaiians and blacks. Asians have the lowest incidence. Researchers have found that 77 percent of SIDS victims died between midnight and noon and during winter months.

We read with interest the series of articles by Rick Carroll, Advertiser staff writer, who accompanied 3 plastic surgeons led by **Ernesto Espaldon** into Mindanao and the remote islands of the Sulu Sea on a 3-week, 2,000-mile medical mission to treat Muslim victims of war, disease, and poverty in the Southern Philippines. Rick wrote: "There are no travel books for Mindanao; only warnings not to venture there. 'Leave your name and next of kin at the U.S. Embassy,' an attache advised. 'Just in case.' " (Yet Ernesto has been taking these medical missions out sometimes twice a year for 11 years)

Elected, Appointed & Honored

Livingston Wong and **Young K. Paik** have been appointed director and alternate, respectively, of the newly organized United Network for Organ Sharing (UNOS) . . . The SFH auditorium will be remodeled and named The **L.Q. Pang** Educational Center . . .

Irwin Schatz, chairman of the department of medicine at U.H. School of Medicine, succeeded **Bob Nordyke** of Straub as the American College of Physicians' governor-elect of Hawaii . . . **Alvin Omori,** deputy chief of the Honolulu medical examiner's office, was elected to the College of American Pathologists . . . **Allan Kunimoto** and **Quintin Uy** were appointed to the Medical Advisory Board . . . **Bruce Chrisman** was accepted as a Fellow of the American Academy of Facial Plastic and Reconstructive Surgery . . . **Arthur P. Liang,** chief epidemiologist for the state, was named chief of the State Communicable Disease division . . . **Paul Hoffman** was appointed the new Maui District Health office director . . . **James** and **Betty Fleming** of Kahului were among the 9 "Great American Families" honored by Nancy Reagan in a ceremony on the White House lawn in June . . . The Hawaii Dermatological Society elected **Milton Ackerman** president, **Roman Glamb,** VP; and **Jay Grekin,** secretary-treasurer . . . Hawaii Medical Library elected **Ann Catts,** president; **Norman Goldstein,** first VP; **John Hardman,** second VP; and **Charles Judd Jr.,** secretary . . . Chaminade University Board of Regents appointed city health director **Anna Maria Brault** as new member . . .

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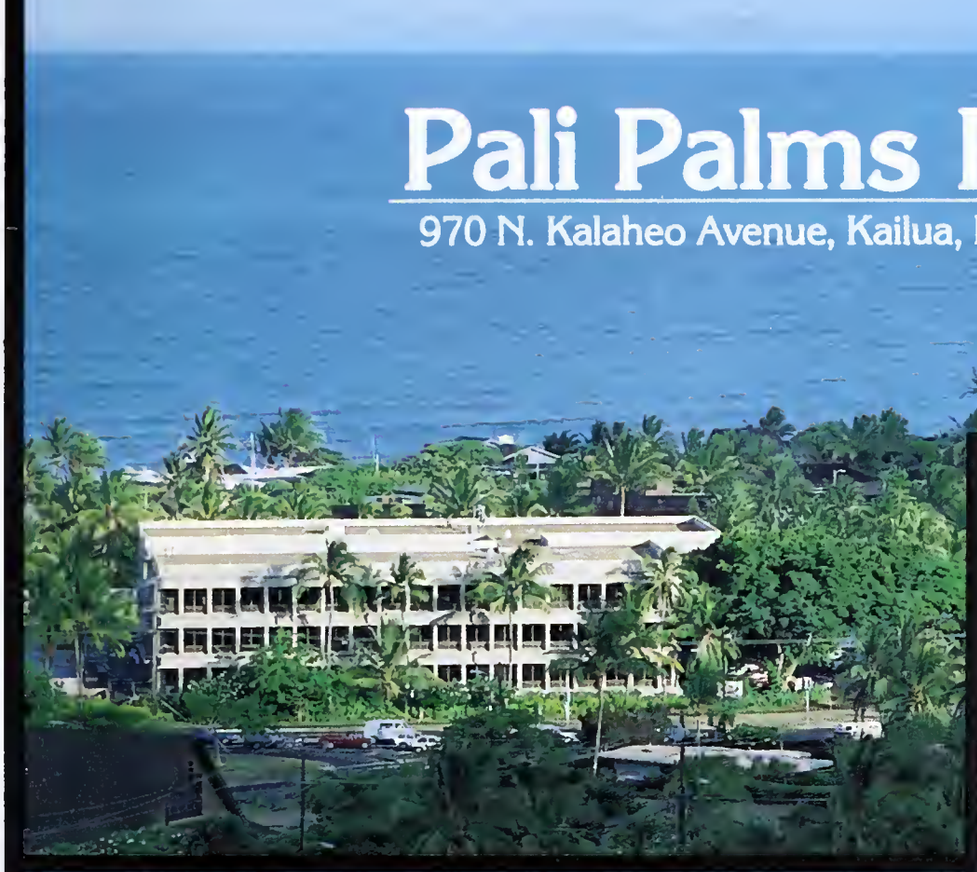
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Index to Hawaii Medical Journal
Volume 43, 1984

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Title Keyword Index

Acupuncture. Acupuncture practice in Hawaii, 43:242
Aging. Aging and the nervous system, 43:456
Altitude. House dust mites at altitude in Hawaii, 43:138
Asbestos. Developments in asbestos-related disease, 43:182
Assay. Human tumor stem-cell clonogenic assay—another failed cancer lad?, 43:374
Asthma. IgE and $IgG_{1, 2, 4}$ in desensitization of pollen asthma, 43:410
Atherosclerosis. Trace metals and atherosclerosis, 43:320
Atherosclerotic. Orbital bruits in atherosclerotic cerebrovascular disease—an Oriental phenomenon, 43:458
Auditory. Dementia: Early diagnosis with an endogenous event related potential (Auditory P300), 43:463
Biography. Garton E. Wall, M.D.—50 years of practice, 43:324
Biopsy. The utility of shave biopsy in office practice, 43:278
Bone marrow. Bone marrow metastases—26 years' experience, 43:220
Breast. Screening for breast cancer in Hawaii—further implications, 43:356
Cancer. Cancer in Hawaiians—compared with other races in Hawaii, 1978-1982, 43:350
Hyperthermia and cancer research, 43:362
Screening for breast cancer in Hawaii—further implications, 43:356
Carcinoma. The natural killer cell-interferon system in human carcinoma, 43:368
Cerebrotendinous. Cerebrotendinous xanthomatosis in Hawaii, 43:472
Cerebrovascular. Orbital bruits in atherosclerotic cerebrovascular disease—an Oriental phenomenon, 43:458
Cervical. Temporomandibular joint dysfunction masquerading as chronic cervical strain, 43:441
Chronically ill. Care of the elderly and chronically ill, 43:302
Clinical pathologist's easy chair. Cerebrospinal fluid—a re-examination, 43:194
Immunopathology of liver diseases, 43:10
Rheumatic diseases, 43:416
ASO, febrile agglutinins, ESR and CRP, 43:286
Dementia. Dementia: early diagnosis with an endogenous event-related potential (Auditory P300), 43:463
Dermatology. Anatomy of a dermatology practice—a year's experience on Kauai, 43:260
Desensitization. IgE and $IgG_{1, 2, 4}$ in desensitization of pollen asthma, 43:410
DRGs. DRGs and medical care—a message from the Medical Society of Delaware, 43:48
Drowning. Salt water drowning, 43:208
Dust. Effect of vacuum cleaning on house dust mites, 43:404
House dust mites at altitude in Hawaii, 43:138
Editorials. Aloha, Dr. Arnold, 43:257
Cancer detection & research in Hawaii, 43:348
Consultations, 43:97
Consultations: part 2, 43:137
Consultations: part 3, 43:192
Ethics and fraud, 43:66
Farewell to the troops,
Improving perinatal care, 43:97
Ken: our perceptive U.S. Senator, 43:297
Licensing exams, 43:389
Medical art exhibit, 43:98
Neurology and neurological surgery, 43:439
New lexicon needed, 43:378
The physician versus society, 43:297
PRO: why should we pull the Feds' chestnuts out of the fire?, 43:226
Project medvote, 43:348
The reference committee—part II, 43:99
The reference committee, 43:64
Reflections of a former "cancer control physician," 43:367
Reflections of a former Queen's Hospital resident, 43:459
The World Medical Association and medical ethics, 43:298
Elderly. Care of the elderly and chronically ill, 43:302
Endarterectomy. Carotid endarterectomy: Complication rate at Queen's Medical Center, 1981-1983, 43:186
Epidermal. Pseudomonas epidermal necrolysis, 43:74
Evaluation. The IME (Independent Medical Evaluation), 43:443
Fiji. The Fiji School of Medicine—a brief history, 43:314

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Hawaii Medical Association. Summary of House of Delegates actions—127th annual meeting, Hawaii Medical Assn., October 8-10, 1983, 43:34
Hawaiians. Cancer in Hawaiians—compared with other races in Hawaii, 1978-1982, 43:350
Heart. Pediatric heart surgery at Queen's Medical Center, 43:7
Hemorrhage. Mediastinal hemorrhage—diagnostic and therapeutic problems, 43:152
Hilo Hospital. Early experience with intravenous streptokinase . . . acute myocardial infarction in Hilo Hospital, 43:394
Homicides. Epidemiologic patterns of homicides in the City and County of Honolulu, 1977-1983, 43:230
Hormone. Hormone treatment clinic for transsexuals, 43:142
Hyperthermia. Hyperthermia and cancer research, 43:362
Independent. The IME (Independent Medical Evaluation), 43:443
Index. Index to Hawaii Medical Journal, Volume 42, 43:25
Informed consent. Mastectomy informed consent, 43:63
Interferon. The natural killer cell-interferon system in human carcinoma, 43:368
Kauai. Anatomy of a dermatology practice—a year's experience on Kauai, 43:260
Letters to the editor. FMGs, 43:439
Medical art exhibit, 43:341
More on saltwater drowning, 43:218
Resolution regarding Hale Mohalu . . ., 43:126
Still more on saltwater drowning, 43:341
A writer's response, 43:341
Liquid. Liquid crystal contact thermography in the clinical evaluation of traumatic low back pain, 43:480
Low back. Liquid crystal contact thermography in the clinical evaluation of traumatic low back pain, 43:480
Marine. Poisonous marine plants and animals —therapeutic guidelines, 43:166
MAST. Military Assistance to Safety and Traffic (MAST) and Helicopter Medical Evaluation (MEDEVAC), 43:200
Mastectomy. Mastectomy informed consent, 43:63
Medevac. Military Assistance to Safety and Traffic (MAST) and Helicopter Medical Evaluation (MEDEVAC), 43:200
Mediastinal. Mediastinal hemorrhage—diagnostic and therapeutic problems, 43:152
Medical care. DRGs and medical care—a message from the Medical Society of Delaware, 43:48
Medical history in the Islands. John A. Burns School of Medicine, University of Hawaii, 43:133
Leprosy in Hawaii, 1889-1976, 43:328
Some early physicians of Hawaii—1800s, 43:250
Metals. Trace metals and atherosclerosis, 43:320
Metastases. Bone marrow metastases—26 years' experience, 43:220
Military. Military Assistance to Safety and Traffic (MAST) and Helicopter Medical Evaluation (MEDEVAC), 43:200
Mites. Effect of vacuum cleaning on house dust mites, 43:404
House dust mites at altitude in Hawaii, 43:138
Myocardial infarction. Early experience with intravenous streptokinase . . . acute myocardial infarction in Hilo Hospital, 43:394
Intracoronary streptokinase for acute myocardial infarction, 43:390
Natural killer cell. The natural killer cell-interferon system in human carcinoma, 43:368
Necrolysis. Pseudomonas epidermal necrolysis, 43:74
Neonatal. Neonatal polycythemia in Hawaii, 43:398
Nervous. Aging and the nervous system, 43:456
Neurology. Neurology and neurosurgery in Hawaii over 45 years—a personal reminiscence, 43:444
Neurosurgery. Neurology and neurosurgery in Hawaii over 45 years—a personal reminiscence, 43:444
Newborn. Resuscitation of the newborn—a practical approach, 43:79
Orbital. Orbital bruits in atherosclerotic cerebrovascular disease—an Oriental phenomenon, 43:458
Pain. Liquid crystal contact thermography in the clinical evaluation of traumatic low back pain, 43:480
Parasitic. Parasitic infestations in Southeast Asian refugees, 43:12
Pediatric. Pediatric heart surgery at Queen's Medical Center, 43:7
Perinatal. Improving perinatal knowledge and care —a self-instruction program, 43:100
Plants. Poisonous marine plants and animals —therapeutic guidelines, 43:166
Poisoning. Fatal sardine poisoning, 43:114
Poisonous. Poisonous marine plants and animals —therapeutic guidelines, 43:166
Pollen. IgE and $IgG_{1, 2, 4}$ in desensitization of pollen asthma, 43:410
Polycythemia. Neonatal polycythemia in Hawaii, 43:398
President's page. Days of plenty, days of want, 43:59
Pseudomonas. Pseudomonas epidermal necrolysis, 43:74
Public relations. Ethical and practical public relations for the physician, 43:300
Queen's. Carotid endarterectomy: complication rate at Queen's Medical Center, 1981-1983, 43:186
Pediatric heart surgery at Queen's Medical Center, 43:7
Refugees. Parasitic infestations in Southeast Asian refugees, 43:12
Resuscitation. Resuscitation of the newborn—a practical approach, 43:79
Saltwater. Saltwater drowning, 43:208
Sardine. Fatal sardine poisoning, 43:114
Screening. Screening for breast cancer in Hawaii—further implications, 43:356
Shave. The utility of shave biopsy in office practice, 43:278
Southeast Asian. Parasitic infestations in Southeast Asian refugees, 43:12
Spherocytosis. Hereditary spherocytosis and thalassemia, 43:180
Stem-cell. Human tumor stem-cell clonogenic assay—another failed cancer fad?, 43:374
Streptokinase. Early experience with intravenous streptokinase . . . acute myocardial infarction in Hilo Hospital, 43:394
Intracoronary streptokinase for acute myocardial infarction, 43:390
Surgery. Pediatric heart surgery at Queen's Medical Center, 43:7
Temporomandibular. Temporomandibular joint dysfunction masquerading as chronic cervical strain, 43:441
Thalassemia. Hereditary spherocytosis and thalassemia, 43:180
Thermography. Liquid crystal contact thermography in the clinical evaluation of traumatic low back pain, 43:480
Thrombocytopenia. Thyrotoxicosis associated with thrombocytopenia, 43:156
Thyrotoxicosis. Thyrotoxicosis associated with thrombocytopenia, 43:156
Trace. Trace metals and atherosclerosis, 43:320
Transsexuals. Hormone treatment clinic for transsexuals, 43:142
Vacuum. Effect of vacuum on house dust mites, 43:404
Xanthomatosis. Cerebrotendinous xanthomatosis in Hawaii, 43:472.

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Author Index

Anfosso F, 43:410
Arkoff S, 43:200
Armstrong RW, 43:230
43:341
Arnold HL Jr., 43:257
Au T, 43:389
Batkin S, 43:456
Bogden P, 43:186
Boychuk RB, 43:79, 97, 100
Burch TA, 43:350
Charpin J, 43:410
Chien YK, 43:410
Ching CY, 43:368
Ching NP, 43:368
Cloward RB, 43:444
Cooper MA, 43:142
Couch RD, 43:114
Dodge FA, 43:126
Elizaga FV, 43:180
Elpern DJ, 43:260
Feldman A, 43:362
Ferguson P, 43:12
Fergusson DJ, 43:390
Fournier-Massey GG, 43:138
Fukunaga FH, 43:10, 194, 286, 320, 416
Fukunaga, KK, 43:320
Furumizo RT, 43:138
Fusetani N, 43:114
Gilbert FI Jr., 43:356
Goodman MJ, 43:356
Hall TC, 43:348, 374
Hinman RC, 43:472
Hom BL, 43:220
Itagaki RK, 43:390
Izumi AK, 43:278
Jasinski DR, 43:97, 257, 367, 378, 459
Jim EL, 43:368
Jim RT, 43:156
Judd CS Jr., 43:133, 250, 328
Kam CC, 43:443
Kramer KJ, 43:12
Lawler SS, 43:152
Liberman J, 43:300
Lim DI, 43:394
Loh KK, 43:368
Low G, 43:356
Massey DG, 43:66, 138, 182, 404
Massey JE, 43:404
Matsuoka NS, 43:230
McKinny WR, 43:12
McNamara JJ, 43:208
McPheeters GO, 43:74
Melton RJ, 43:114
Mills GH, 43:302
Moreno-Cabral RJ, 43:7
Nakano KK, 43:480
Nelson JC, 43:100
Odom CB, 43:218
Oishi N, 43:368
Okihiro MM, 43:439, 458
Pearce JW, 43:463
Penick M, 43:200
Pennington AH, 43:314
Pettett PG, 43:398
Pinkerton S, 43:348
Puapongsakorn P, 43:180
Randall JE, 43:114
Rawlings JS, 43:398
Reeve R, 43:152, 341, 390
Reppun JIF, 43:64, 97, 99, 137, 192, 226, 297, 324
Siddiqui WA, 43:12
Sims JK, 43:114, 166, 200
Straehley CJ, 43:74
Taira M, 43:341
Taira MM, 43:98
Tan AK, 43:439
Teraoka JK, 43:278
Trott EE, 43:242
Uehara S, 43:59
Weiner RS, 43:114
Wiswell TE, 43:398
Won WW, 43:441
Wong LL, 43:208
Wynen A, 43:298
Yim DW, 43:368
Zbiciak C, 43:200

3 1378 00480 3055